REGULATION FOR REDUCING THE OZONE FORMED FROM AEROSOL COATING PRODUCT EMISSIONS

Final Regulation Order
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SUBCHAPTER 8.5. CONSUMER PRODUCTS

Article 3. Aerosol Coating Products

94520. Applicability.

This article shall apply to any person who sells, supplies, offers for sale, applies, or manufactures aerosol coating products for use in the state of California, except as provided in section 94523.

NOTE: Authority cited: Sections 39600, 39601 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000 and 41712, Health and Safety Code.

94521. Definitions.

(a) For the purpose of this article, the following definitions apply:

(1) "Adhesive" means a product used to bond one surface to another.

(2) "Aerosol Coating Product" means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marking applications.

(3) "Anti-Static Spray" means a product used to prevent or inhibit the accumulation of static electricity.

(4) "Art Fixative or Sealant" means a clear coating, including art varnish, workable art fixative, and ceramic coating, which is designed and labeled exclusively for application to paintings, pencil, chalk, or pastel drawings, ceramic art pieces, or other closely related art uses, in order to provide a final protective coating or to fix preliminary stages of artwork while providing a workable surface for subsequent revisions.

(5) "ASTM" means the American Society for Testing and Materials.

(6) "Auto Body Primer" means an automotive primer or primer surfacer coating designed and labeled exclusively to be applied to a vehicle body substrate for the purposes of corrosion resistance and building a repair area to a condition in which, after drying, it can be sanded to a smooth surface.

(7) “Automotive Bumper and Trim Product” means a product, including adhesion promoters and chip sealants, designed and labeled exclusively to repair and refinish automotive bumpers and plastic trim parts.

(8) “Automotive Underbody Coating” means a flexible coating which contains asphalt or rubber and is designed and labeled exclusively for use on the underbody of motor vehicles to resist rust, abrasion and vibration, and to deaden sound.

(9) “Aviation Propeller Coating” means a coating designed and labeled exclusively to provide abrasion resistance and corrosion protection for aircraft propellers.

(10) “Aviation or Marine Primer” means a coating designed and labeled exclusively to meet federal specification TT-P-1757.

(11) “Base Reactive Organic Gas Mixture” (Base ROG Mixture) means the mixture of reactive organic gases utilized in deriving the MIR scale.

(12) “Belt Dressing” means a product applied on auto fan belts, water pump belting, power transmission belting, and industrial and farm machinery belting to prevent slipping, and to extend belt life.

(13) “Cleaner” means a product designed and labeled primarily to remove soil or other contaminants from surfaces.

(14) “Clear Coating” means a coating which is colorless, containing resins but no pigments except flatting agents, and is designed and labeled to form a transparent or translucent solid film.

(15) “Coating Solids” means the nonvolatile portion of an aerosol coating product, consisting of the film forming ingredients, including pigments and resins.

(16) “Commercial Application” means the use of aerosol coating products in the production of goods, or the providing of services for profit, including touch-up and repair.

(17) “Corrosion Resistant Brass, Bronze, or Copper Coating” means a clear coating designed and labeled exclusively to prevent tarnish and corrosion of uncoated brass, bronze, or copper metal surfaces.

(18) “Distributor” means any person to whom an aerosol coating product is sold or supplied for the purposes of resale or distribution in commerce, except that manufacturers, retailers, and consumers are not distributors.

(19) “Dye” means a product containing no resins which is used to color a surface or object without building a film.

(20) “Electrical Coating” means a coating designed and labeled exclusively as such, which is used exclusively to coat electrical components such as wire windings on electric motors to provide insulation and protection from corrosion.

(21) “Enamel” means a coating which cures by chemical cross-linking of its base resin and is not resoluble in its original solvent.

(22) “Engine Paint” means a coating designed and labeled exclusively to coat engines and their components.

(23) “Exact Match Finish, Engine Paint” means a coating which meets all of the following criteria: (A) the product is designed and labeled exclusively to exactly match the color of an original, factory-applied engine paint; (B) the product is labeled with the manufacturer's name for which they were formulated; and (C) the product is labeled with one of the following: (1.) the original equipment manufacturer's (O.E.M.) color code number; (2.) the color name; or (3.) other designation identifying the specific O.E.M. color to the purchaser.

(24) “Exact Match Finish, Automotive” means a topcoat which meets all of the following criteria: (A) the product is designed and labeled exclusively to exactly match the color of an original, factory-applied automotive coating during the touch-up of automobile finishes; (B) the product is labeled with the manufacturer's name for which they were formulated; and (C) the product is labeled with one of the following: (1.) the original equipment manufacturer's (O.E.M.) color code number; (2.) the color name; or (3.) other designation identifying the specific O.E.M. color to the purchaser. Not withstanding the foregoing, automotive clear coatings designed and labeled exclusively for use over automotive exact match finishes to replicate the original factory applied finish shall be considered to be automotive exact match finishes.

(25) “Exact Match Finish, Industrial” means a coating which meets all of the following criteria: (A) the product is designed and labeled exclusively to exactly match the color of an original, factory-applied industrial coating during the touch-up of manufactured products; (B) the product is labeled with the manufacturer's name for which they were formulated; and (C) the product is labeled with one of the following: (1.) the original equipment manufacturer's (O.E.M.) color code number; (2.) the color name; or (3.) other designation identifying the specific O.E.M. color to the purchaser.

(26) “Executive Officer” means the Executive Officer of the Air Resources Board, or her or his delegate.

(27) “Flat Paint Products” means a coating which, when fully dry, registers specular gloss less than or equal to 15 on an 85^{o} gloss meter, or less than or equal to 5 on a 60^{o} gloss meter, or which is labeled as a flat coating.

(28) “Flatting Agent” means a compound added to a coating to reduce the gloss of the coating without adding color to the coating.

(29) “Floral Spray” means a coating designed and labeled exclusively for use on fresh flowers, dried flowers, or other items in a floral arrangement for the purposes of coloring, preserving or protecting their appearance.

(30) “Fluorescent Coating” means a coating labeled as such, which converts absorbed incident light energy into emitted light of a different hue.

(31) “Glass Coating” means a coating designed and labeled exclusively for use on glass or other transparent material to create a soft, translucent light effect, or to create a tinted or darkened color while retaining transparency.

(32) “Ground Traffic/Marking Coating” means a coating designed and labeled exclusively to be applied to dirt, gravel, grass, concrete, asphalt, warehouse floors, or parking lots. Such coatings must be in a container equipped with a valve and sprayhead designed to direct the spray toward the surface when the can is held in an inverted vertical position.

(33) “High Temperature Coating” means a coating, excluding engine paint, which is designed and labeled exclusively for use on substrates which will, in normal use, be subjected to temperatures in excess of 400^{o}F.

(34) “Hobby/Model/Craft Coating” means a coating which is designed and labeled exclusively for hobby applications and is sold in aerosol containers of 6 ounces by weight or less.

(35) “Ingredient” means a component of an aerosol coating product.

(36) “Ink” means a fluid or viscous substance used in the printing industry to produce letters, symbols or illustrations, but not to coat an entire surface.

(37) “Lacquer” means a thermoplastic film-forming material dissolved in organic solvent, which dries primarily by solvent evaporation, and is resoluble in its original solvent.

(38) “Layout Fluid” (or toolmaker's ink) means a coating designed and labeled exclusively to be sprayed on metal, glass or plastic, to provide a glare-free surface on which to scribe designs, patterns or engineering guide lines prior to shaping the piece.

(39) “Leather preservative or cleaner” means a leather treatment material applied exclusively to clean or preserve leather.

(40) “Lubricant” means a substance such as oil, petroleum distillates, grease, graphite, silicone, lithium, etc. that is used to reduce friction, heat, or wear when applied between surfaces.

(41) “Manufacturer” means any person who imports, manufactures, assembles, produces, packages, repackages, or relabels a consumer product.

(42) “Marine Spar Varnish” means a coating designed and labeled exclusively to provide a protective sealant for marine wood products.

(43) “Maskant” means a coating applied directly to a component to protect surface areas when chemical milling, anodizing, aging, bonding, plating, etching, or performing other chemical operations on the surface of the component.

(44) “Maximum Incremental Reactivity” (MIR) means the maximum change in weight of ozone formed by adding a compound to the “Base ROG Mixture” per weight of compound added, expressed to hundredths of a gram (g O_3/g ROC). MIR values for individual compounds and hydrocarbon solvents are specified in sections 94700 and 94701, Title 17, California Code of Regulations.

(45) “Metallic Coating” means a topcoat which contains at least 0.5 percent by weight elemental metallic pigment in the formulation, including propellant, and is labeled as “metallic”, or with the name of a specific metallic finish such as “gold”, “silver”, or “bronze.”

(46) “Mold Release” means a coating applied to molds to prevent products from sticking to the surfaces of the mold.

(47) “Multi-Component Kit” means an aerosol spray paint system which requires the application of more than one component (e.g. foundation coat and top coat), where both components are sold together in one package.

(48) “Nonflat Paint Product” means a coating which, when fully dry, registers a specular gloss greater than 15 on an 85^o gloss meter or greater than five on a 60^o gloss meter.

(49) “Ozone” means a colorless gas with a pungent odor, having the molecular form O_3.

(50) “Percent VOC By Weight” means the ratio of the weight of VOC to the total weight of the product contents expressed as follows:

$$\text{Percent VOC By Weight} = (W_{VOC} / W_{total}) \times 100$$

Where:

(A) for products containing no water and no volatile compounds exempt from the definition of VOC: W_{VOC} = the weight of volatile compounds;
(B) for products containing water or exempt compounds: W_{VOC} = the weight of volatile compounds, less water, and less compounds exempt from the VOC definition in this section 94521; and
(C) W_{total} = the total weight of the product contents.

(51) "Photograph Coating" means a coating designed and labeled exclusively to be applied to finished photographs to allow corrective retouching, protection of the image, changes in gloss level, or to cover fingerprints.

(52) "Pleasure Craft" means privately owned vessels used for noncommercial purposes.

(53) "Pleasure Craft Finish Primer/Surfacer/Undercoater" means a coating designed and labeled exclusively to be applied prior to the application of a pleasure craft topcoat for the purpose of corrosion resistance and adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

(54) "Pleasure Craft Topcoat" means a coating designed and labeled exclusively to be applied to a pleasure craft as a final coat above the waterline and below the waterline when stored out of water. This category does not include clear coatings.

(55) "Polyolefin Adhesion Promoter" means a coating designed and labeled exclusively to be applied to a polyolefin or polyolefin copolymer surface of automotive body parts, bumpers, or trim parts to provide a bond between the surface and subsequent coats.

(56) "Primer" means a coating labeled as such, which is designed to be applied to a surface to provide a bond between that surface and subsequent coats.

(57) "Product-Weighted MIR" (PWMIR) means the sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging) and calculated according to the following equations:

(a) Weighted MIR (Wtd-MIR) ingredient = MIR x Weight fraction ingredient,

and,

(b) Product Weighted MIR = $(Wtd\text{-}MIR)_1 + (Wtd\text{-}MIR)_2 + \ldots + (Wtd\text{-}MIR)_n$

where,

MIR	=	ingredient MIR, as specified in section 94522(h);
Wtd-MIR	=	MIR of each ingredient in a product multiplied by the weight fraction of that ingredient, as shown in (a);
1,2,3,...,n	=	each ingredient in the product up to the total n ingredients in the product.

(58) “Propellant” means a liquefied or compressed gas that is used in whole or in part, such as a cosolvent, to expel a liquid or any other material from the same self-pressurized container or from a separate container.

(59) “Reactivity Limit” means the maximum “product-weighted MIR” allowed in an aerosol coating product that is subject to the limits specified in section 94522(a)(3) for a specific category, expressed as g O_3/g product.

(60) “Reactive Organic Compound (ROC)” means any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

(61) “Responsible Party” means the company, firm, or establishment which is listed on the product's label. If the label lists two companies, firms or establishments, the responsible party is the party which the product was “manufactured for” or “distributed by”, as noted on the label.

(62) “Retailer” means any person who sells, supplies, or offers aerosol coating products for sale directly to consumers.

(63) “Retail Outlet” means any establishment where consumer products are sold, supplied, or offered for sale, directly to consumers.

(64) “Rust Converter” means a product designed and labeled exclusively to convert rust to an inert material and which contains a minimum acid content of 0.5 percent by weight, and a maximum coating solids content of 0.5 percent by weight.

(65) “Shellac Sealer” means a clear or pigmented coating formulated solely with the resinous secretion of the lac beetle (*Laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

(66) “Slip-Resistant Coating” means a coating designed and labeled exclusively as such, which is formulated with synthetic grit and used as a safety coating.

(67) “Spatter Coating/Multicolor Coating” means a coating labeled exclusively as such wherein spots, globules, or spatters of contrasting colors appear on or within the surface of a contrasting or similar background.

(68) “Stain” means a coating which is designed and labeled to change the color of a surface but not conceal the surface.

(69) “Upper-Limit Kinetic Reactivity” (ULKR) means the maximum percentage of the emitted ROC which has reacted. For this article, the ULKR is one hundred percent and is used to calculate the ULMIR.

(70) “Upper-Limit Mechanistic Reactivity” (ULMR) means the maximum gram(s) of ozone formed per gram of reactive organic compound (ROC) reacting. The ULMR is used to calculate the ULMIR.

(71) “Upper-Limit MIR” (ULMIR) means the upper-limit kinetic reactivity (ULKR) multiplied by the upper-limit mechanistic reactivity (ULMR), as calculated using the following equation:

ULMIR = Upper Limit KR x Upper Limit MR.

The units for ULMIR are g O_3/g ROC.

(72) “Vinyl/Fabric/Leather/Polycarbonate Coating” means a coating designed and labeled exclusively to coat vinyl, fabric, leather, or polycarbonate substrates.

(73) “Volatile Organic Compound (VOC)” means any compound containing at least one atom of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and excluding the following:

(A) methane,
methylene chloride (dichloromethane),
1,1,1-trichloroethane (methyl chloroform),
trichlorofluoromethane (CFC-11),
dichlorodifluoromethane (CFC-12),
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113),
1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114),
chloropentafluoroethane (CFC-115),
chlorodifluoromethane (HCFC-22),
1,1,1-trifluoro-2,2-dichloroethane (HCFC-123),
1,1-dichloro-1-fluoroethane (HCFC-141b),
1-chloro-1,1-difluoroethane (HCFC-142b),
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124),
trifluoromethane (HFC-23),
1,1,2,2-tetrafluoroethane (HFC-134),
1,1,1,2-tetrafluoroethane (HFC-134a),
pentafluoroethane (HFC-125),
1,1,1-trifluoroethane (HFC-143a),
1,1-difluoroethane (HFC-152a),

cyclic, branched, or linear completely methylated siloxanes,
the following classes of perfluorocarbons:

1. cyclic, branched, or linear, completely fluorinated alkanes;
2. cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
3. cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
4. sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds to carbon and fluorine, and

(B) the following low-reactive organic compounds which have been exempted by the U.S. EPA:
acetone,
ethane,
methyl acetate
parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene),
perchloroethylene (tetrachloroethylene).

(74) "Webbing/Veiling Coating" means a coating designed and labeled exclusively to provide a stranded to spider webbed appearance when applied.

(75) "Weight Fraction" means the weight of an ingredient divided by the total net weight of the product, expressed to thousandths of a gram of ingredient per gram of product (excluding container and packaging). The weight fraction is calculated according to the following equation:

$$\text{Weight Fraction} = \frac{\text{Weight of the Ingredient}}{\text{Total Product Net Weight (excluding container and packaging).}}$$

(76) "Weld-Through Primer" means a coating designed and labeled exclusively to provide a bridging or conducting effect for corrosion protection following welding.

(77) "Wood Stain" means a coating which is formulated to change the color of a wood surface but not conceal the surface.

(78) "Wood Touch-Up/Repair/Restoration" means a coating designed and labeled exclusively to provide an exact color or sheen match on finished wood products.

(79) "Working Day" means any day between Monday through Friday, inclusive, except for days that are federal holidays.

NOTE: Authority cited: Sections 39600, 39601 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000 and 41712, Health and Safety Code.

94522. Limits and Requirements for Aerosol Coating Products.

(a)(1) Compliance with Limits. Aerosol coating products manufactured beginning June 1, 2002, for the general coating categories and beginning January 1, 2003, for the specialty coating categories shall comply with the reactivity requirements specified in 94522(a)(3). Aerosol coating products manufactured before the effective dates of the reactivity limits specified in section 94522(a)(3) shall comply with the VOC requirements specified in section 94522(a)(2), except for products that are labeled by the manufacturer with the applicable reactivity limit, as provided in section 94524(b)(1)(B). If an aerosol coating product is so labeled, then the product shall comply with the reactivity requirements specified in section 94522(a)(3), regardless of the date on which the product was manufactured.

(a)(2) VOC Limits for Aerosol Coating Products. Except as provided in sections 94522(a)(1), 94523 (Exemptions), 94525 (Variances), 94540 through 94555 (Alternative Control Plan), and 94567(a)(1) (Hairspray Credit Program), Title 17, California Code of Regulations, no person shall sell, supply, offer for sale, apply, or manufacture for use in California, any aerosol coating product which, at the time of sale, use, or manufacture, contains volatile organic compounds in excess of the limits specified in the following Table of Standards after the specified effective dates.

Table of Standards

Percent Volatile Organic Compounds by Weight[1]

Aerosol Coating Category	1/8/96
General Coatings	
Clear Coatings	67.0
Flat Paint Products	60.0
Fluorescent Coatings	75.0
Metallic Coatings	80.0
Nonflat Paint Products	65.0
Primers	60.0
Specialty Coatings	
Art Fixatives or Sealants	95.0
Auto Body Primers	80.0
Automotive Bumper and Trim Products	95.0
Aviation or Marine Primers	80.0
Aviation Propeller Coatings	84.0
Corrosion Resistant Brass,	92.0

Bronze, or Copper Coatings	
Aerosol Coating Category	1/8/96

Specialty Coatings (continued)

Exact Match Finishes:	
Engine Enamel	80.0
Automotive	88.0
Industrial	88.0
Floral Sprays	95.0
Glass Coatings	95.0
Ground Traffic/Marking Coatings	66.0
High Temperature Coatings	80.0
Hobby/Model/Craft Coatings:	
Enamel	80.0
Lacquer	88.0
Clear or Metallic	95.0
Marine Spar Varnishes	85.0
Photograph Coatings	95.0
Pleasure Craft Finish Primers, Surfacers or Undercoaters	75.0
Pleasure Craft Topcoats	80.0
Shellac Sealers:	
Clear	88.0
Pigmented	75.0
Slip-Resistant Coatings	80.0
Spatter/Multicolor Coatings	80.0
Vinyl/Fabric/Leather/Polycarbonate Coatings	95.0
Webbing/Veil Coatings	90.0
Weld-Through Primers	75.0
Wood Stains	95.0
Wood Touch-Up, Repair or Restoration Coatings	95.0

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[1] As specified in section 94522(c), for aerosol coating products containing methylene chloride, the VOC standards specified in this subsection (a)(2) shall apply to the combined percent VOC and methylene chloride by weight.

(a)(3) Reactivity Limits for Aerosol Coating Products.

(A) Except as provided in sections 94522(a)(1), 94523 (Exemptions) and 94525 (Variances), Title 17, California Code of Regulations, no person shall sell, supply, offer for sale, apply, or manufacture for use in California, any aerosol coating product which, at the time of sale, use, or manufacture, contains reactive organic compounds that have a PWMIR in

excess of the limits specified in the following Table of Limits after the specified effective date.

Table of Limits

Product-Weighted MIR in Grams Ozone per Gram Product (g O3 / g product)

Aerosol Coating Category	
General Coatings	**06/01/2002**
Clear Coatings	1.50
Flat Paint Products	1.20
Fluorescent Coatings	1.75
Metallic Coatings	1.90
Nonflat Paint Products	1.40
Primers	1.20
Specialty Coatings	**01/01/2003**
Art Fixatives or Sealants	1.80
Auto Body Primers	1.55
Automotive Bumper and Trim Products	1.75
Aviation or Marine Primers	2.00
Aviation Propeller Coatings	2.50
Corrosion Resistant Brass, Bronze, or Copper Coatings	1.80
Exact Match Finishes:	
Engine Enamel	1.70
Automotive	1.50
Industrial	2.05
Floral Sprays	1.70
Glass Coatings	1.40
Ground Traffic/Marking Coatings	1.20
High Temperature Coatings	1.85
Hobby/Model/Craft Coatings:	
Enamel	1.45
Lacquer	2.70
Clear or Metallic	1.60
Marine Spar Varnishes	0.90
Photograph Coatings	1.00
Pleasure Craft Finish Primers, Surfacers or Undercoaters	1.05

Pleasure Craft Topcoats	0.60
Polyolefin Adhesion Promoters	2.50
Shellac Sealers:	
Clear	1.00
Pigmented	0.95
Slip-Resistant Coatings	2.45
Spatter/Multicolor Coatings	1.05
Vinyl/Fabric/Leather/Polycarbonate Coatings	1.55
Webbing/Veil Coatings	0.85
Weld-Through Primers	1.00
Wood Stains	1.40
Wood Touch-Up, Repair or Restoration Coatings	1.50

(a)(4) If an aerosol coating product is subject to both a general coating limit and a specialty coating limit, as listed in section 94522(a)(2) or (a)(3), and the product meets all the criteria of the applicable specialty coating category as defined in section 94521, then the specialty coating limit shall apply instead of the general coating limit.

(a)(5) Notwithstanding the provisions of sections 94522(a)(4) or 94524(a), high-temperature coatings that contain at least 0.5 percent by weight of an elemental metallic pigment in the formulation, including propellant, shall be subject to the limit specified for metallic coatings.

(a)(6) The Alternative Control Plan Regulation (sections 94540-94555) may not be used for aerosol coating products subject to the reactivity limits specified in section 94522(a)(3).

(b) **Sell-Through of Products Subject to the VOC Limits Specified in Section 94522(a)(2).**

Notwithstanding the provisions of section 94522(a)(1) and (a)(3), an aerosol coating product manufactured prior to each of the effective dates specified for that product in section 94522(a)(3) may be sold, supplied, offered for sale, or applied for up to three years after each of the specified effective dates, provided that the product complies with the limit specified in section 94522(a)(2). This subsection (b) does not apply to any product which does not display on the product container or package the date on which the product was manufactured, or a code indicating such date.

(c) **Products Containing Methylene Chloride or Trichloroethylene**.

(1) Requirements for Products Subject to the VOC Limits Specified in Section 94522(a)(2).

For any aerosol coating product containing methylene chloride, the VOC standards specified in section 94522(a)(2) shall apply to the combined percent by weight of both volatile organic compounds, and methylene chloride, calculated as follows:

(Percent by weight VOC + Percent by weight methylene chloride) must be less than or equal to the applicable VOC standard

(2) Requirements for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

(A) For any aerosol coating product subject to the reactivity limits specified in section 94522(a)(3), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains methylene chloride or trichloroethylene.

(B) The requirements of section 94522(c)(2) shall not apply to any aerosol coating product containing methylene chloride or trichloroethylene that is present as an impurity in a combined amount equal to or less than 0.01% by weight of the product.

(d) **Products Containing Perchloroethylene or Ozone Depleting Substances**.

(1) Requirements for Products Subject to the VOC Limits Specified in Section 94522(a)(2).

For any aerosol coating product subject to the VOC limits specified in section 94522(a)(2), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains perchloroethylene, or an ozone depleting substance identified by the United States Environmental Protection Agency in the Code of Federal Regulations, 40 CFR Part 82, Subpart A, under Appendices A and B, July 1, 1998. The requirements of this section 94522(d)(1) shall not apply to (A) any existing product formulation that complies with the Table of Standards and was sold in California during calendar year 1992, or (B) any product formulation that was sold in California during calendar year 1992 that is reformulated to meet the Table of Standards, as long as the content of perchloroethylene, or ozone depleting substances, as identified in this section 94522(d), in the reformulated product does not increase.

(2) Requirements for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

(A) Perchloroethylene

For any aerosol coating product subject to the reactivity limits specified in section 94522(a)(3), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains perchloroethylene.

(B) Ozone Depleting Substances

For any aerosol coating product subject to the reactivity limits specified in section 94522(a)(3), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains an ozone depleting substance identified by the United States Environmental Protection Agency in the Code of Federal Regulations, 40 CFR Part 82, Subpart A, under Appendices A and B, July 1, 1998. The requirements of this section 94522(d)(2) shall not apply to (1.) any existing product formulation containing an ozone depleting substance that complies with the Table of Limits and was sold in California during calendar year 1997, or (2.) any product formulation containing an ozone depleting substance that was sold in California during calendar year 1997 that is reformulated to meet the Table of Limits, as long as the content of ozone depleting substances, as identified in this section 94522(d)(2), in the reformulated product does not increase.

(3) The requirements of section 94522(d)(1) and (d)(2) shall not apply to any aerosol coating product containing perchloroethylene, or an ozone depleting substance as identified in section 94522(d)(1) or (d)(2), that are present as impurities in a combined amount equal to or less than 0.01% by weight of the product.

(e) **Multicomponent Kits.**

(1) Requirements for Products Subject to the VOC Limits Specified in Section 94522(a)(2).

No person shall sell, supply, offer for sale, apply, or manufacture for use in California any multi-component kit, as defined in section 94521, in which the total weight of VOC and methylene chloride contained in the multi-component kit $(\text{Total VOC} + \text{MC})_{actual}$ is greater than the total weight of VOC and methylene chloride that would be allowed in the multi-component kit if each component product in the kit had separately met the applicable VOC standards $(\text{Total VOC} + \text{MC})_{standard}$ as calculated below:

$$(\text{Total VOC} + \text{MC})_{actual} = (VOC_1 \times W_1) + (MC_1 \times W_1) + (VOC_2 \times W_2) + (MC_2 \times W_2) + (VOC_n \times W_n) + (MC_n \times W_n)$$

$$(\text{Total VOC} + \text{MC})_{standard} = (STD_1 \times W_1) + (STD_2 \times W_2) + (STD_n \times W_n)$$

Where:

VOC = the percent by weight VOC of the component product
MC = the percent by weight methylene chloride of the component product
STD = the VOC standard specified in section 94522(a) which applies to the component product
W = the weight of the product contents (excluding container)
Subscript 1 denotes the first component product in the kit
Subscript 2 denotes the second component product in the kit
Subscript n denotes any additional component product

(2) Requirements for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

No person shall sell, supply, offer for sale, apply, or manufacture for use in California any multi-component kit, as defined in section 94521, in which the Kit PWMIR is greater than the Total Reactivity Limit. The Total Reactivity Limit represents the limit that would be allowed in the multi-component kit if each component product in the kit had separately met the applicable Reactivity Limit. The Kit PWMIR and Total Reactivity Limit are calculated as in equations (1), (2) and (3) below:

(1) $\text{Kit PWMIR} = (PWMIR_{(1)} \times W_1) + (PWMIR_{(2)} \times W_2) + \ldots + (PWMIR_{(n)} \times W_n)$

(2) $\text{Total Reactivity Limit} = (RL_1 \times W_1) + (RL_2 \times W_2) + \ldots + (RL_n \times W_n)$

(3) $\text{Kit PWMIR} \leq \text{Total Reactivity Limit}$

Where:

W = the weight of the product contents (excluding container)
RL = the Reactivity Limit specified in section 94522(a)(3)
Subscript 1 denotes the first component product in the kit
Subscript 2 denotes the second component product in the kit
Subscript n denotes any additional component product

(f) **Products Assembled by Adding Bulk Paint to Aerosol Containers of Propellant**. No person shall sell, supply, offer for sale, apply, or manufacture for use in the state of California any aerosol coating product assembled by adding bulk paint to aerosol containers of propellant, unless such products comply with the VOC standards specified in section 94522(a)(2), or with the reactivity limits specified in section 94522(a)(3) for products subject to those limits.

(g) **Requirements for Lacquer Aerosol Coating Products Subject to the VOC Limits Specified in Section 94522(a)(2).**

(1) Notwithstanding the provisions of Section 94522(a)(2), lacquer aerosol coating products may be sold, supplied, offered for sale, applied, or manufactured for use in California with a combined VOC and methylene chloride content of up to 80 percent by weight until January 1, 1998.

(2) On or after January 1, 1998, all lacquer aerosol coating products sold, supplied, offered for sale, applied, or manufactured for use in California shall comply with the provisions of section 94522(a)(2), except that lacquer aerosol coating products manufactured prior to January 1, 1998 may be sold, supplied, offered for sale, or applied until January 1, 2001, as long as the product displays on the product container or package the date on which the product was manufactured or a code indicating such date.

(3) This subsection (g) does not apply to: (A) any lacquer coating product not clearly labeled as such, or (B) any lacquer coating product which is sold, supplied, offered for sale, applied, or manufactured for use in the Bay Area Air Quality Management District (BAAQMD) and is subject to BAAQMD Rule 8-49, or (C) any lacquer coating product that meets the definition of “clear coating” specified in section 94521.

(h) **Assignment of Maximum Incremental Reactivity (MIR) Values.**

(1) In order to calculate the PWMIR of aerosol coating products as specified in section 94521(a)(57), the MIR values of product ingredients are assigned as follows:

(A) Any ingredient which does not contain carbon is assigned a MIR value of 0.0.

(B) Any aerosol coating solid, including but not limited to resins, pigments, fillers, plasticizers, and extenders is assigned a MIR value of 0.0.

(C) For any ROC not covered under (1)(A) and (1)(B) of this subsection (h), each ROC is assigned the MIR value set forth in Subchapter 8.6, Article 1, sections 94700 and 94701, Title 17, California Code of Regulations.

(D) Except as provided in subsection (h)(3), only ROCs listed in sections 94700 and 94701, Title 17, California Code of Regulations, can be used to comply with the reactivity limits specified in section

94522(a)(3).

(E) All individual compounds in an amount equal to or exceeding 0.1 percent shall be considered ingredients in calculating the PWMIR. Such individual compounds shall be considered ingredients whether or not they are reported by the manufacturer pursuant to section 94526(b).

(2) (A) The MIR values dated July 18, 2001, shall be used to calculate the PWMIR for aerosol coating products, and these MIR values shall not be changed until June 1, 2007.

(B) If a new ROC is added to section 94700 or 94701, then the new ROC may be used in aerosol coating products, and the MIR value for the new ROC shall be used to calculate the PWMIR after the effective date of the MIR value.

(3) The MIR value for any aromatic hydrocarbon solvent with a boiling range different from the ranges specified in section 94701(b) shall be assigned as follows:

(A) if the solvent dry point is lower than or equal to 420 degrees F, the MIR value specified in section 94701(b) for bin 23 shall be used.

(B) if the solvent initial boiling point is higher than 420 degrees F, the MIR value specified in section 94701(b) for bin 24 shall be used.

NOTE: Authority cited: Section 39600, 39601 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000 and 41712, Health and Safety Code.

94523. Exemptions.

(a) (1) For products manufactured before December 31, 2008: This article shall not apply to aerosol lubricants, mold releases, automotive underbody coatings, electrical coatings, cleaners, belt dressings, anti-static sprays, layout fluids and removers, adhesives, maskants, rust converters, dyes, inks, cosmetics or any other products used on the human body, and leather preservatives or cleaners.

(2) For products manufactured on or after December 31, 2008: This article shall not apply to aerosol lubricants, mold releases, automotive underbody coatings, electrical coatings, cleaners, belt dressings, anti-static sprays, layout fluids and removers, adhesives, maskants, rust converters, dyes, inks, cosmetics or any other products used on the human body, leather preservatives or cleaners, products for vehicle tires, “Rubber/Vinyl Protectants” as defined in section 94508, and “Fabric Protectants” as defined in section 94508.

(b) This article shall not apply to any aerosol coating product manufactured in California for shipment and use outside of California.

(c) The provisions of this article shall not apply to a manufacturer, distributor, or responsible party who sells, supplies, or offers for sale in California an aerosol coating product that does not comply with the limits specified in section 94522(a)(2) or (a)(3), as long as the manufacturer, distributor, or responsible party can demonstrate both that the aerosol coating product is intended for shipment and use outside of California, and that the manufacturer, distributor, or responsible party has taken reasonable prudent precautions to assure that the aerosol coating product is not distributed to California. This subsection (c) does not apply to aerosol coating products that are sold, supplied, or offered for sale by any person to retail outlets in California.

(d) The requirements in sections 94522(a)(2) and (a)(3) prohibiting the application of aerosol coating products that exceed the limits specified in the sections 94522(a)(2) or (a)(3) shall apply only to commercial application of aerosol coating products.

NOTE: Authority cited: Section 39600, 39601 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000 and 41712, Health and Safety Code.

94524. Administrative Requirements.

(a) **Most Restrictive Limit.**

Except as otherwise provided in section 94522(a)(4), if anywhere on the container of any aerosol coating product subject to the specified limits in section 94522(a)(2) or (a)(3), or on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the product may be used as, or is suitable for use as a product for which a lower limit is specified, then the lowest applicable limit shall apply.

(b) **Labeling Requirements.**

(1) Both the manufacturer and responsible party for each aerosol coating product subject to this article shall ensure that all products clearly display the following information on each product container which is manufactured 90 days or later after the effective date of this article.

(A) Products subject to the VOC limits specified in section 94522(a)(2) shall display:

1. the applicable VOC standard for the product that is specified in section 94522(a)(2), expressed as a percentage by weight unless the product is included in an alternative control plan

approved by the Executive Officer, as provided in Article 4. Section 94540-94555, Title 17, California Code of Regulations, and the product exceeds the applicable VOC standard;

2. if the product is included in an alternative control plan approved by the Executive Officer, and the product exceeds the applicable VOC standard specified in section 94522(a)(2), the product shall be labeled with the term "ACP" or "ACP product";

3. the aerosol coating category as defined in section 94521, or an abbreviation of the coating category; and

4. the day, month, and year on which the product was manufactured, or a code indicating such date.

(B) Products subject to the reactivity limits specified in section 94522(a)(3) shall display:

1. the applicable reactivity limit for the product that is specified in section 94522(a)(3);

2. the aerosol coating category as defined in section 94521, or an abbreviation of the coating category; and

3. the day, month, and year on which the product was manufactured, or a code indicating such date.

(2) The information required in section 94524(b)(1), shall be displayed on the product container such that it is readily observable without removing or disassembling any portion of the product container or packaging. For the purposes of this subsection, information may be displayed on the bottom of a container as long as it is clearly legible without removing any product packaging.

(3) No person shall remove, alter, conceal, or deface the information required in section 94524(b)(1) prior to final sale of the product.

(4) For any aerosol coating product subject to section 94522(a), if the manufacturer or responsible party uses a code indicating the date of manufacture or an abbreviation of the coating category as defined in section 94521, an explanation of the code or abbreviation must be filed with the Executive Officer prior to the use of the code or abbreviation.

(c) **Reporting Requirements.**

(1) Any responsible party for an aerosol coating product subject to this article which is sold, supplied, or offered for sale in California, must supply the Executive Officer of the Air Resources Board with the following information within 90 days of the effective date of this article: the company name, mail address, contact person, and the telephone number of the contact person.

For responsible parties who do not manufacture their own aerosol coating products, the responsible party shall also supply the information specified in this subsection (c)(1) for those manufacturers which produce products for the responsible party.

The responsible party shall also notify the Executive Officer within 90 days of any change in the information supplied to the Executive Officer pursuant to this subsection (c)(1).

(2) Upon 90 days written notice, each manufacturer or responsible party subject to this article shall submit to the Executive Officer a written report with all of the following information for each product they manufacture under their name or another company's name:

(A) the brand name of the product;
(B) upon request, a copy of the product label;
(C) the owner of the trademark or brand names;
(D) the product category as defined in section 94521;
(E) the annual California sales in pounds per year and the method used to calculate California annual sales;
(F) product formulation data:

1. for products subject to the VOC limits specified in section 94522(a)(2), the percent by weight VOC, water, solids, propellant, and any compounds exempt from the definition of VOC as specified in section 94521;

2. for products subject to the reactivity limits specified in section 94522(a)(3), the PWMIR and the weight fraction of all ingredients including: water, solids, each ROC, and any compounds assigned a MIR value of zero as specified in sections 94522(h), 94700, or 94701 [Each ROC must be reported as an ingredient if it is present in an amount greater than or equal to 0.1 percent by weight of the final aerosol coatings formulation. If an individual ROC is present in an amount less than 0.1 percent by weight, then it does not need to be reported as an ingredient. In addition, an impurity that meets

the following definition does not need to be reported as an ingredient.

For the purpose of this section, an “impurity” means an individual chemical compound present in a raw material which is incorporated into the final aerosol coatings formulation, if the compound is present below the following amounts in the raw material:

(i) for individual compounds that are carcinogens, as defined in 29 CFR section 1910.1200(d)(4), each compound must be present in an amount less than 0.1 percent by weight in order to be considered an “impurity.”

(ii) for all other compounds present in a raw material, a compound must be present in an amount less than 1 percent by weight in order to be considered an “impurity”];

(G) an identification of each product brand name as a “household,” “industrial,” or “both” product; and

(H) any other information necessary to determine the emissions or the product-weighted MIR from aerosol coating products.

The information requested in this section (c)(2) may be supplied as an average for a group of aerosol coating products within the same coating category when the products do not vary in VOC content by more than two percent (by weight), and the coatings are based on the same resin type, or the products are color variations of the same product (even if the coatings vary by more than 2 percent in VOC content).

(3) Upon written request, the responsible party for aerosol coating products subject to this article shall supply the Executive Officer with a list of all exempt compounds contained in any aerosol coating product within 15 working days.

(d) **Treatment of Confidential Information.**

All information submitted by manufacturers pursuant to section 94524 shall be handled in accordance with the procedures specified in Title 17, California Code of Regulations, sections 91000-91022.

(e) **Special Reporting Requirements for Perchloroethylene-Containing Aerosol Coatings.**

(1) The requirements of this subsection shall apply to all responsible parties for perchloroethylene-containing aerosol coatings sold or offered for sale in California on or after January 1, 1996. For the purposes of this subsection, "perchloroethylene-containing aerosol coating" means any aerosol coating that is required to comply with any limit specified in section 94522(a)(2) or (a)(3) and contains 1.0 percent or more by weight (exclusive of the container or packaging) of perchloroethylene (tetrachloroethylene).

(2) Reporting Requirements to Establish Baseline. On or before March 1, 1997, or 60 days after the effective date of this subsection (e) (whichever date occurs later), all responsible parties for perchloroethylene-containing aerosol coatings shall report to the Executive Officer the following information for each product:

(A) the product brand name and a copy of the product label with legible usage instructions;

(B) the product category to which the aerosol coating belongs;

(C) the total amount of the aerosol coating sold in California between January 1, 1996 and December 31, 1996, to the nearest pound (exclusive of the container or packaging), and the method used for calculating the California sales;

(D) the weight percent, to the nearest 0.10 percent, of perchloroethylene in the aerosol coating.

(3) Annual Reporting Requirements. On or before March 1, 1998, March 1, 1999, March 1, 2000, March 1, 2001, and March 1, 2002, all responsible parties subject to the requirements of this subsection shall provide to the Executive Officer an update which reports, for the previous calendar year, any changes in the annual California sales, perchloroethylene content, or any other information provided pursuant to subsections (e)(2)(A) through (e)(2)(D). After March 1, 2002, responsible parties are not required to submit this information unless specifically requested to do so by the Executive Officer.

(4) Upon request, the Executive Officer shall make the information submitted pursuant to this subsection available to publicly-owned treatment works in California, in accordance with the procedures for handling of confidential information specified in Title 17, California Code of Regulations, sections 91000-91022.

(A) On or before July 1, 2002, the Executive Officer shall evaluate the information, along with data on influent and effluent levels of perchloroethylene as reported by publicly-owned treatments works and any other relevant information, to determine if it is likely that publicly-owned treatment works are experiencing increased levels of perchloroethylene, relative to 1996 levels, that can be attributed to aerosol coatings which contain perchloroethylene.

(B) If the Executive Officer determines that it is likely that increased perchloroethylene levels at the publicly-owned treatment works are caused by increased levels of perchloroethylene in aerosol coatings subject to this regulation, then the Executive Officer shall, in conjunction with the publicly-owned treatment works, implement measures which are feasible, appropriate, and necessary for reducing perchloroethylene levels at the publicly-owned treatment works.

NOTE: Authority cited: Section 39600, 39601, 41511 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000, 41511 and 41712, Health and Safety Code.

94525. Variances.

(a) Any person who cannot comply with the requirements set forth in Section 94522, because of extraordinary reasons beyond the person's reasonable control may apply in writing to the Executive Officer for a variance. The variance application shall set forth:

(1) the specific grounds upon which the variance is sought;

(2) the proposed date(s) by which compliance with the provisions of Section 94522 will be achieved, and

(3) a compliance report reasonably detailing the method(s) by which compliance will be achieved.

(b) Upon receipt of a variance application containing the information required in subsection (a), the Executive Officer shall hold a public hearing to determine whether, under what conditions, and to what extent, a variance from the requirements in Section 94522 is necessary and will be permitted. A hearing shall be initiated no later than 75 working days after receipt of a variance application. Notice of the time and place of the hearing shall be sent to the applicant by certified mail not less than 30 days prior to the hearing. Notice of the hearing shall also be submitted for publication in the California Regulatory Notice Register and sent to every person who requests such notice, not less than

30 days prior to the hearing. The notice shall state that the parties may, but need not be, represented by counsel at the hearing. At least 30 days prior to the hearing, the variance application shall be made available to the public for inspection. Information submitted to the Executive Officer by a variance applicant may be claimed as confidential, and such information shall be handled in accordance with the procedures specified in Title 17, California Code of Regulations, Sections 91000-91022. The Executive Officer may consider such confidential information in reaching a decision on a variance application. Interested members of the public shall be allowed a reasonable opportunity to testify at the hearing and their testimony shall be considered.

(c) No variance shall be granted unless all of the following findings are made:

(1) that, because of reasons beyond the reasonable control of the applicant, requiring compliance with Section 94522 would result in extraordinary economic hardship.

(2) that the public interest in mitigating the extraordinary hardship to the applicant by issuing the variance outweighs the public interest in avoiding any increased emissions of air contaminants which would result from issuing the variance.

(3) that the compliance report proposed by the applicant can reasonably be implemented, and will achieve compliance as expeditiously as possible.

(d) Any variance order shall specify a final compliance date by which the requirements of Section 94522 will be achieved. Any variance order shall contain a condition that specifies increments of progress necessary to assure timely compliance, and such other conditions that the Executive Officer, in consideration of the testimony received at the hearing, finds necessary to carry out the purposes of Division 26 of the Health and Safety Code.

(e) A variance shall cease to be effective upon failure of the party to whom the variance was granted to comply with any term or condition of the variance.

(f) Upon the application of any person, the Executive Officer may review, and for good cause, modify or revoke a variance from the requirements of Section 94522 after holding a public hearing in accordance with the provisions of subsection 94525(b).

NOTE: Authority cited: Sections 39600, 39601 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000 and 41712, Health and Safety Code.

94526. Test Methods.

Compliance with the requirements of this article shall be determined by using the following test methods, which are incorporated by reference herein. Alternative test methods which are shown to accurately determine the VOC content, ingredient name and weight percent of each ingredient, exempt compound content, metal content, specular gloss, or acid content may also be used after approval in writing by the Executive Officer:

(a) Testing for Products Subject to the VOC Limits Specified in Section 94522(a)(2).

(1) VOC Content. The VOC content of all aerosol coating products subject to the provisions of this article shall be determined by the procedures set forth in "Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products and Reactive Organic Compounds in Aerosol Coating Products", adopted September 25, 1997 and as last amended on May 5, 2005.

(2) In sections 3.5 and 3.7 of Air Resources Board (ARB) Method 310, a process is specified for the "Initial Determination of VOC Content" and the "Final Determination of VOC Content". This process is an integral part of testing procedure set forth in ARB Method 310, and is reproduced below:

Sections 3.5 and 3.7 of Air Resources Board Method 310

3.5 *Initial Determination of VOC Content*. The Executive Officer will determine the VOC content pursuant to section 3.2 and 3.3. Only those components with concentrations equal to or greater than 0.1 percent by weight will be reported.

3.5.1 Using the appropriate formula specified in section 4.0, the Executive Officer will make an initial determination of whether the product meets the applicable VOC standards specified in ARB regulations. If initial results show that the products does not meet the applicable VOC standards, the Executive Officer may perform additional testing to confirm the initial results.

3.5.2 If the results obtained under section 3.5.1 show that the products does not meet the applicable VOC standards, the Executive Officer will request the product manufacturer or responsible party to supply product formulation data. The manufacturer or responsible party shall supply the requested

information. Information submitted to the ARB Executive Officer may be claimed as confidential; such information will be handled in accordance with the confidentiality procedures specified in Title 17, California Code of Regulations, sections 91000 to 91022.

3.5.3 If the information supplied by the manufacturer or responsible party shows that the product does not meet the applicable VOC standards, then the Executive Officer will take appropriate enforcement action.

3.5.4 If the manufacturer or responsible party fails to provide formulation data as specified in section 3.5.2, the initial determination of VOC content under this section 3.5 shall determine if the product is in compliance with the applicable VOC standards. This determination may be used to establish a violation of ARB regulations.

3.7 *Final Determination of VOC Content*. If a product's compliance status is not satisfactorily resolved under section 3.5 and 3.6, the Executive Officer will conduct further analyses and testing as necessary to verify the formulation data.

3.7.1 If the accuracy of the supplied formulation data is verified and the product sample is determined to meet the applicable VOC standards, then no enforcement action for violation of the VOC standards will be taken.

3.7.2 If the Executive Officer is unable to verify the accuracy of the supplied formulation data, then the Executive Officer will request the product manufacturer or responsible party to supply information to explain the discrepancy.

3.7.3 If there exists a discrepancy that cannot be resolved between the results of Method 310 and the supplied formulation data, then the results of Method 310 shall take precedence over the supplied formulation data. The results of Method 310 shall then determine if the product is in compliance with the applicable VOC standards, and may be used to establish a violation of ARB regulations.

(b) Testing for Products Subject to the Reactivity Limits Specified in Section 94522(a)(3).

(1) The ingredients and the amount of each ingredient of all aerosol coating products subject to the provisions of this article shall be determined by the

procedures set forth in “Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products,” adopted September 25, 1997 and as last amended on May 5, 2005.

(2) Upon written notification from the Executive Officer, the aerosol coating manufacturer shall have 10 working days to provide to the Executive Officer the following information for products selected for testing:

(A) the product category as defined in section 94521(a);

(B) the PWMIR;

(C) the weight fraction of all ingredients including: water, solids, each ROC, and any compounds assigned a MIR value of zero as specified in sections 94522(h), 94700, or 94701 [Each ROC must be reported as an ingredient if it is present in an amount greater than or equal to 0.1 percent by weight of the final aerosol coatings formulation. If an individual ROC is present in an amount less than 0.1 percent by weight, then it does not need to be reported as an ingredient. In addition, an impurity that meets the following definition does not need to be reported as an ingredient.

For the purpose of this section, an “impurity” means an individual chemical compound present in a raw material which is incorporated into the final aerosol coatings formulation, if the compound is present below the following amounts in the raw material:

(i) for individual compounds that are carcinogens, as defined in 29 CFR section 1910.1200(d)(4), each compound must be present in an amount less than 0.1 percent by weight in order to be considered an “impurity.”

(ii) for all other compounds present in a raw material, a compound must be present in an amount less than 1 percent by weight in order to be considered an “impurity”];

(D) any other information necessary to determine the PWMIR of the aerosol coating products to be tested.

(3) Final determination of the PWMIR of the aerosol coatings shall be determined using the information obtained from section 94526(b)(1) and (2).

(c) Exempt Compounds from Products Subject to the VOC Limits Specified in

Section 94522(a)(2). Compounds exempt from the definition of VOC shall be analyzed according to the test methods listed below:

(1) the exempt compound content of aerosol coating products shall be determined by "Air Resources Board Method 310, Determination of Volatile Organic Compounds (VOC) in Consumer Products," adopted September 25, 1997 and as last amended on May 5, 2005, which is incorporated herein by reference.

(2) the following classes of compounds will be analyzed as exempt compounds only if manufacturers specify which individual compounds are used in the product formulations and identify the test methods, which prior to such analysis, have been approved by the Executive Officer of the ARB, and can be used to quantify the amounts of each exempt compound: cyclic, branched, or linear, completely fluorinated alkanes; cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(d) Metal Content. The metal content of metallic aerosol coating products shall be determined by South Coast Air Quality Management District (SCAQMD) Test Method 318-95 "Determination of Weight Percent Elemental Metal in Coatings by X-ray Diffraction" July 1996, which is incorporated herein by reference.

(e) Specular Gloss. Specular gloss of flat and nonflat coatings shall be determined by ASTM Method D-523-89, March 31, 1989, which is incorporated herein by reference.

(f) Acid Content. The acid content of rust converters shall be determined by ASTM Method D-1613-96, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish. Lacquer, and Related Products, May 10, 1996, which is incorporated herein by reference.

(g) Lacquers. Lacquer aerosol coating products shall be identified according to the procedures specified in ASTM Method D-5043-90, "Standard Test Methods for Field Identification of Coatings," April 27, 1990, which is incorporated herein by reference.

NOTE: Authority cited: Sections 39600, 39601, 39607, 41511 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 39607, 40000, 41511 and 41712, Health and Safety Code.

94527. Severability.

Each part of this article shall be deemed severable, and in the event that any part of this article is held to be invalid, the remainder of this article shall continue in full force and effect.

NOTE: Authority cited: Sections 39600, 39601 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000 and 41712, Health and Safety Code.

94528. Federal Enforceability.

For purposes of federal enforceability of this article, the United States Environmental Protection Agency is not subject to approval determinations made by the Executive Officer under sections 94525 and 94526. Within 180 days of a request from a person who has been granted a variance under Section 94525, a variance meeting the requirements of the Clean Air Act shall be submitted by the Executive Officer to the Environmental Protection Agency for inclusion in the applicable implementation plan approved or promulgated by the Environmental Protection Agency pursuant to Section 110 of the Clean Air Act, 42 U.S.C., Section 7410.

NOTE: Authority cited: Sections 39600, 39601, 39602 and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 39602, 40000 and 41712, Health and Safety Code.

SUBCHAPTER 8.6 Maximum Incremental Reactivity

Article 1. Tables of Maximum Incremental Reactivity (MIR) Values

§ 94700. MIR Values for Compounds.

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
	Alkanes		
1	methane	0.01	0.014
2	ethane	0.31	0.28
3	propane	0.56	0.49
4	cyclopropane	0.10	0.09
5	n-butane	1.33	1.15
6	isobutane	1.35	1.23
7	cyclobutane	1.05	1.20
8	n-pentane	1.54	1.31
9	branched C5 alkane(s)	1.68	1.45
10	neopentane	0.69	0.67
11	isopentane	1.68	1.45
12	cyclopentane	2.69	2.39
13	n-hexane	1.45	1.24
14	branched C6 alkane(s)	1.53	1.31
15	2,2-dimethyl butane	1.33	1.17
16	2,3-dimethyl butane	1.14	0.97
17	2-methyl pentane	1.80	1.50
18	3-methyl pentane	2.07	1.80
19	C6 cycloalkane(s)	1.46	1.25
20	cyclohexane	1.46	1.25
21	isopropyl cyclopropane	1.52	1.22
22	methyl cyclopentane	2.42	2.19
23	unspeciated C6 alkane(s)	1.48	1.27
24	n-heptane	1.28	1.07
25	2,2,3-trimethyl butane	1.32	1.11
26	2,2-dimethyl pentane	1.22	1.12
27	2,3-dimethyl pentane	1.55	1.34
28	2,4-dimethyl pentane	1.65	1.55
29	2-methyl hexane	1.37	1.19

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
30	3,3-dimethyl pentane	1.32	1.20
31	3-methyl hexane	1.86	1.61
32	3-ethyl pentane*	1.79	1.90
33	branched C7 alkane(s)	1.63	1.48
34	1,1-dimethyl cyclopentane*	1.01	1.08
35	1,2-dimethyl cyclopentane*	1.87	1.99
36	C7 cycloalkane(s)	1.99	1.70
37	1,3-dimethyl cyclopentane	2.15	1.94
38	cycloheptane	2.26	1.96
39	ethyl cyclopentane	2.27	2.01
40	methyl cyclohexane	1.99	1.70
41	unspeciated C7 alkane(s)	1.79	1.41
42	n-octane	1.11	0.90
43	branched C8 alkane(s)	1.57	1.45
44	2,2,3,3-tetramethyl butane	0.44	0.33
45	2,2,4-trimethyl pentane	1.44	1.26
46	2,2-dimethyl hexane	1.13	1.02
47	2,3,4-trimethyl pentane	1.23	1.03
48	2,3-dimethyl hexane	1.34	1.19
49	2,4-dimethyl hexane	1.80	1.73
50	2,5-dimethyl hexane	1.68	1.46
51	2-methyl heptane	1.20	1.07
52	3-methyl heptane	1.35	1.24
53	4-methyl heptane	1.48	1.25
54	2,3,3-trimethyl pentane*	0.95	1.02
55	3,3-dimethyl hexane*	1.16	1.24
56	2,2,3-trimethyl pentane*	1.15	1.22
57	3,4-dimethyl hexane*	1.41	1.51
58	3-ethyl 2-methyl pentane*	1.25	1.33
59	C8 bicycloalkane(s)	1.75	1.51
60	1,1,2-trimethyl cyclopentane*	1.04	1.12
61	1,1,3-trimethyl cyclopentane*	0.94	1.01
62	1,1-dimethyl cyclohexane*	1.13	1.22
63	1,2,3-trimethyl cyclopentane*	1.52	1.63
64	1,2,4-trimethyl cyclopentane*	1.43	1.53
65	1-methyl-3-ethyl cyclopentane*	1.53	1.64
66	1,2-dimethyl cyclohexane*	1.30	1.41
67	1,4-dimethyl cyclohexane*	1.51	1.62
68	C8 cycloalkane(s)	1.75	1.47
69	1,3-dimethyl cyclohexane	1.72	1.52
70	cyclooctane	1.73	1.46
71	ethyl cyclohexane	1.75	1.47
72	propyl cyclopentane	1.91	1.69

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
73	unspeciated C8 alkane(s)	1.64	1.27
74	n-nonane	0.95	0.78
75	branched C9 alkane(s)	1.25	1.14
76	2,2,5-trimethyl hexane	1.33	1.13
77	2,3,5-trimethyl hexane	1.33	1.22
78	2,4-dimethyl heptane	1.48	1.38
79	2-methyl octane	0.96	0.83
80	3,3-diethyl pentane	1.35	1.21
81	3,5-dimethyl heptane	1.63	1.56
82	4-ethyl heptane	1.44	1.22
83	4-methyl octane	1.08	0.95
84	2,4,4-trimethyl hexane*	1.26	1.34
85	3,3-dimethyl heptane*	1.05	1.13
86	4,4-dimethyl heptane*	1.19	1.27
87	2,2-dimethyl heptane*	0.93	1.00
88	2,2,4-trimethyl hexane*	1.19	1.26
89	2,6-dimethyl heptane*	0.96	1.04
90	2,3-dimethyl heptane*	1.01	1.09
91	2,5-dimethyl heptane*	1.25	1.35
92	3-methyl octane*	0.91	0.99
93	3,4-dimethyl heptane*	1.15	1.24
94	3-ethyl heptane*	1.01	1.10
95	*cis*-hydrindane; bicyclo[4.3.0]nonane*	1.20	1.31
96	C9 bicycloalkane(s)	1.57	1.39
97	1,2,3-trimethyl cyclohexane*	1.12	1.22
98	1,3,5-trimethyl cyclohexane*	1.06	1.15
99	1,1,3-trimethyl cyclohexane	1.37	1.19
100	1-ethyl-4-methyl cyclohexane	1.62	1.44
101	propyl cyclohexane	1.47	1.29
102	C9 cycloalkane(s)	1.55	1.36
103	unspeciated C9 alkane(s)	2.13	1.09
104	n-decane; n-C10	0.83	0.68
105	branched C10 alkane(s)	1.09	0.94
106	2,4,6-trimethyl heptane*	1.20	1.28
107	2,4-dimethyl octane	1.09	1.03
108	2,6-dimethyl octane	1.27	1.08
109	2-methyl nonane	0.86	0.73
110	3,4-diethyl hexane	1.20	0.89
111	3-methyl nonane	0.89	0.75
112	4-methyl nonane	0.99	0.86
113	4-propyl heptane	1.24	1.02
114	2,4,4-trimethyl heptane*	1.23	1.31
115	2,5,5-trimethyl heptane*	1.17	1.25

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
116	3,3-dimethyl octane*	1.01	1.09
117	4,4-dimethyl octane*	1.06	1.14
118	2,2-dimethyl octane*	0.77	0.83
119	2,2,4-trimethyl heptane*	1.09	1.16
120	2,2,5-trimethyl heptane*	1.18	1.26
121	2,3,6-trimethyl heptane*	0.82	0.90
122	2,3-dimethyl octane*	0.79	0.86
123	2,5-dimethyl octane*	0.94	1.03
124	2-methyl-3-ethyl heptane*	0.91	0.99
125	4-ethyl octane*	0.71	0.79
126	C10 bicycloalkane(s)	1.29	1.09
127	isobutyl cyclohexane; (2-methylpropyl) cyclohexane*	0.90	0.99
128	sec-butyl cyclohexane*	0.90	0.99
129	C10 cycloalkane(s)	1.27	1.07
130	1,3-diethyl cyclohexane	1.34	1.26
131	1,4-diethyl cyclohexane	1.49	1.23
132	1-methyl-3-isopropyl cyclohexane	1.26	1.00
133	butyl cyclohexane	1.07	0.99
134	unspeciated C10 alkane(s)	1.16	0.90
135	n-undecane; n-C11	0.74	0.61
136	branched C11 alkane(s)	0.87	0.73
137	2,3,4,6-tetramethyl heptane	1.26	1.11
138	2,6-dimethyl nonane	0.95	0.79
139	3,5-diethyl heptane	1.21	1.11
140	3-methyl decane	0.77	0.65
141	4-methyl decane	0.80	0.68
142	C11 bicycloalkane(s)	1.01	0.91
143	C11 cycloalkane(s)	0.99	0.90
144	1,3-diethyl-5-methyl cyclohexane	1.11	1.04
145	1-ethyl-2-propyl cyclohexane	0.95	0.81
146	pentyl cyclohexane	0.91	0.84
147	unspeciated C11 alkane(s)	0.90	0.74
148	n-dodecane; n-C12	0.66	0.55
149	branched C12 alkane(s)	0.80	0.63
150	2,3,5,7-tetramethyl octane	1.06	0.91
151	2,6-diethyl octane	1.09	0.97
152	3,6-dimethyl decane	0.88	0.70
153	3-methyl undecane	0.70	0.59
154	5-methyl undecane	0.72	0.55
155	C12 tricycloalkane(s)*	0.74	0.82
156	C12 bicycloalkane(s)	0.88	0.81
157	C12 cycloalkane(s)	0.87	0.80
158	1,3,5-triethyl cyclohexane	1.06	1.02

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
159	1-methyl-4-pentyl cyclohexane	0.81	0.72
160	hexyl cyclohexane	0.75	0.65
161	unspeciated C12 alkane(s)	0.81	0.66
162	n-tridecane; n-C-13	0.62	0.53
163	branched C13 alkane(s)	0.73	0.60
164	2,3,6-trimethyl 4-isopropyl heptane	1.24	0.93
165	2,4,6,8-tetramethyl nonane	0.94	0.76
166	3,6-dimethyl undecane	0.82	0.69
167	3,7-diethyl nonane	1.08	0.89
168	3-methyl dodecane	0.64	0.54
169	5-methyl dodecane	0.64	0.47
170	C13 tricycloalkane(s)*	0.64	0.71
171	C13 bicycloalkane(s)	0.79	0.70
172	C13 cycloalkane(s)	0.78	0.70
173	1,3-diethyl-5-propyl cyclohexane	0.96	0.96
174	1-methyl-2-hexyl cyclohexane	0.70	0.58
175	heptyl cyclohexane	0.66	0.55
176	unspeciated C13 alkane(s)	0.73	0.61
177	n-tetradecane; n-C14	0.58	0.51
178	branched C14 alkane(s)	0.67	0.55
179	2,4,5,6,8-pentamethyl nonane	1.11	0.95
180	2-methyl 3,5-diisopropyl heptane	0.78	0.56
181	3,7-dimethyl dodecane	0.74	0.62
182	3,8-diethyl decane	0.68	0.60
183	3-methyl tridecane	0.57	0.51
184	6-methyl tridecane	0.62	0.46
185	C14 tricycloalkane(s)*	0.60	0.66
186	C14 bicycloalkane(s)	0.71	0.66
187	C14 cycloalkane(s)	0.71	0.65
188	1,3-dipropyl-5-ethyl cyclohexane	0.94	0.91
189	*trans*-1-methyl-4-heptyl cyclohexane	0.58	0.53
190	octyl cyclohexane	0.60	0.51
191	unspeciated C14 alkane(s)	0.67	0.57
192	n-pentadecane; n-C15	0.53	0.50
193	branched C15 alkane(s)	0.60	0.50
194	2,6,8-trimethyl 4-isopropyl nonane	0.76	0.63
195	3,7-dimethyl tridecane	0.64	0.55
196	3,9-diethyl undecane	0.62	0.51
197	3-methyl tetradecane	0.53	0.48
198	6-methyl tetradecane	0.57	0.42
199	C15 tricycloalkane(s)*	0.56	0.63
200	C15 bicycloalkane(s)	0.69	0.62
201	C15 cycloalkane(s)	0.68	0.61

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
202	1,3,5-tripropyl cyclohexane	0.90	0.87
203	1-methyl-2-octyl cyclohexane	0.60	0.50
204	nonyl cyclohexane	0.54	0.47
205	1,3-diethyl-5-pentyl cyclohexane	0.99	0.66
206	unspeciated C15 alkane(s)	0.61	0.54
207	n-hexadecane; n-C16	0.52	0.45
208	branched C16 alkane(s)	0.54	0.47
209	2,7-dimethyl 3,5-diisopropyl heptane	0.69	0.52
210	3-methyl pentadecane	0.50	0.46
211	4,8-dimethyl tetradecane	0.55	0.49
212	7-methyl pentadecane	0.51	0.45
213	C16 tricycloalkane(s)*	0.53	0.59
214	C16 bicycloalkane(s)*	0.52	0.58
215	C16 cycloalkane(s)	0.61	0.55
216	1,3-propyl-5-butyl cyclohexane	0.77	0.75
217	1-methyl-4-nonyl cyclohexane	0.55	0.46
218	decyl cyclohexane	0.50	0.43
219	unspeciated C16 alkane(s)	0.55	0.49
220	n-heptadecane; n-C17	0.49	0.42
221	branched C17 alkane(s)	0.51	0.44
222	C17 tricycloalkane(s)*	0.50	0.55
223	C17 bicycloalkane(s)*	0.49	0.55
224	C17 cycloalkane(s)*	0.46	0.52
225	unspeciated C17 alkane(s)	0.52	0.46
226	n-octadecane; n-C18	0.44	0.40
227	branched C18 alkane(s)	0.48	0.42
228	C18 tricycloalkane(s)*	0.47	0.52
229	C18 bicycloalkane(s)*	0.46	0.52
230	C18 cycloalkane(s)*	0.44	0.49
231	unspeciated C18 alkane(s)	0.49	0.44
232	n-nonadecane; n-C19	0.44	0.38
233	branched C19 alkane(s)*	0.35	0.40
234	C19 tricycloalkane(s)*	0.44	0.49
235	C19 bicycloalkane(s)*	0.44	0.49
236	C19 cycloalkane(s)*	0.42	0.46
237	n-eicosane; icosane; n-C20	0.42	0.36
238	branched C20 alkane(s)*	0.34	0.38
239	C20 tricycloalkane(s)*	0.42	0.47
240	C20 bicycloalkane(s)*	0.42	0.46
241	C20 cycloalkane(s)*	0.39	0.44
242	n-heneicosane; n-C21	0.40	0.34
243	branched C21 alkane(s)*	0.32	0.36
244	C21 tricycloalkane(s)*	0.40	0.44

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
245	C21 bicycloalkane(s)*	0.40	0.44
246	C21 cycloalkane(s)*	0.38	0.42
247	n-docosane, n-C22	0.38	0.33
248	branched C22 alkane(s)*	0.31	0.34
249	C22 tricycloalkane(s)*	0.38	0.42
250	C22 bicycloalkane(s)*	0.38	0.42
251	C22 cycloalkane(s)*	0.36	0.40
	Alkenes		
252	ethene	9.08	9.00
253	propene	11.58	11.66
254	1,2-propadiene; allene*	8.11	8.45
255	1-butene	10.29	9.73
256	C4 terminal alkenes	10.29	9.73
257	isobutene	6.35	6.29
258	*cis*-2-butene	13.22	14.24
259	*trans*-2-butene	13.91	15.16
260	C4 internal alkenes	13.57	14.70
261	1,2-butadiene*	9.03	9.35
262	1,3-butadiene	13.58	12.61
263	C4 alkenes	11.93	12.22
264	1-pentene	7.79	7.21
265	3-methyl-1-butene	6.99	6.99
266	C5 terminal alkenes	7.79	7.21
267	2-methyl-1-butene	6.51	6.40
268	2-methyl-2-butene	14.45	14.08
269	*cis*-2-pentene	10.24	10.38
270	*trans*-2-pentene	10.23	10.56
271	2-pentenes	10.23	10.47
272	C5 internal alkenes	10.23	10.47
273	cyclopentene	7.38	6.77
274	*trans*-1,3-pentadiene*	12.10	12.50
275	*cis*-1,3-pentadiene*	12.10	12.50
276	1,4-pentadiene*	8.92	9.24
277	1,2-pentadiene*	7.59	7.86
278	3-methyl-1,2-butadiene*	9.95	10.29
279	isoprene; 2-methyl-1,3-butadiene	10.69	10.61
280	cyclopentadiene	7.61	6.98
281	C5 alkenes	9.01	8.84
282	1-hexene	6.17	5.49
283	3,3-dimethyl-1-butene	6.06	5.82
284	3-methyl-1-pentene	6.22	6.14
285	4-methyl-1-pentene	6.26	5.68
286	C6 terminal alkenes	6.17	5.49

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
287	2,3-dimethyl-1-butene	4.77	4.75
288	2-ethyl-1-butene	5.04	5.07
289	2-methyl-1-pentene	5.18	5.26
290	2,3-dimethyl-2-butene	13.32	12.49
291	2-methyl-2-pentene	12.28	11.00
292	*cis*-4-methyl-2-pentene*	7.88	8.12
293	*cis*-2-hexene	8.44	8.31
294	*cis*-3-hexene	8.22	7.61
295	*cis*-3-methyl-2-pentene	12.84	12.49
296	*trans*-3-methyl-2-pentene*	14.17	13.17
297	*trans*-4-methyl-2-pentene*	7.88	8.12
298	*trans*-2-hexene	8.44	8.62
299	*trans*-3-hexene	8.16	7.57
300	2-hexenes	8.44	8.47
301	C6 internal alkenes	8.44	8.47
302	3-methyl cyclopentene*	4.92	5.10
303	1-methyl cyclopentene	13.95	12.49
304	cyclohexene	5.45	5.00
305	*trans*,*trans*-2,4-hexadiene*	8.57	8.83
306	*trans*-1,3-hexadiene*	10.03	10.37
307	*trans*-1,4-hexadiene*	8.36	8.64
308	C6 cyclic olefins or di-olefins	8.65	8.68
309	C6 alkenes	6.88	6.98
310	*trans*-4-methyl-2-hexene	7.88	7.18
311	*trans*-3-methyl-2-hexene	14.17	10.07
312	2,3-dimethyl-2-hexene	10.41	8.53
313	1-heptene	4.20	4.43
314	3,4-dimethyl-1-pentene*	4.66	4.84
315	3-methyl-1-hexene*	4.24	4.41
316	2,4-dimethyl-1-pentene*	5.81	6.01
317	2,3-dimethyl-1-pentene*	4.97	5.15
318	3,3-dimethyl-1-pentene*	4.71	4.91
319	2-methyl-1-hexene*	4.92	5.10
320	2,3,3-trimethyl-1-butene	4.62	4.49
321	C7 terminal alkenes	4.20	4.43
322	4,4-dimethyl-cis-2-pentene*	6.45	6.64
323	2,4-dimethyl-2-pentene*	9.03	9.29
324	2-methyl-2-hexene*	9.22	9.47
325	3-ethyl-2-pentene*	9.49	9.75
326	3-methyl-*trans*-3-hexene*	9.44	9.72
327	*cis*-2-heptene*	6.94	7.16
328	2-methyl-*trans*-3-hexene*	6.03	6.25
329	3-methyl-*cis*-3-hexene*	9.44	9.72

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
330	3,4-dimethyl-*cis*-2-pentene*	8.91	9.15
331	2,3-dimethyl-2-pentene*	10.41	9.74
332	*cis*-3-heptene	6.96	6.33
333	*trans*-4,4-dimethyl-2-pentene	6.99	6.64
334	*trans*-2-heptene	7.33	7.14
335	*trans*-3-heptene	6.96	6.32
336	*cis*-3-methyl-2-hexene	13.38	10.07
337	2-heptenes	6.96	6.32
338	C7 internal alkenes	6.96	6.32
339	1-methyl cyclohexene	7.81	6.61
340	4-methyl cyclohexene	4.48	4.18
341	C7 cyclic olefins or di-olefins	7.49	7.29
342	C7 alkenes	5.76	5.37
343	1-octene	3.45	3.25
344	C8 terminal alkenes	3.45	3.25
345	2,4,4-trimethyl-1-pentene*	3.24	3.34
346	3-methyl-2-isopropyl-1-butene	3.29	3.31
347	*trans*-2-octene*	5.81	6.00
348	2-methyl-2-heptene*	8.10	8.33
349	*cis*-4-octene	5.94	4.73
350	*trans*-2,2-dimethyl 3-hexene	5.97	5.00
351	*trans*-2,5-dimethyl 3-hexene	5.44	4.82
352	*trans*-3-octene	6.13	5.34
353	*trans*-4-octene	5.90	4.81
354	3-octenes	6.13	5.34
355	C8 internal alkenes	5.90	4.81
356	2,4,4-trimethyl-2-pentene	8.52	6.29
357	1,2-dimethyl cyclohexene	6.77	5.63
358	C8 cyclic olefins or di-olefins	6.01	4.89
359	C8 alkenes	4.68	4.03
360	1-nonene	2.76	2.60
361	C9 terminal alkenes	2.76	2.60
362	4,4-dimethyl-1-pentene*	3.00	3.13
363	4-nonene*	4.37	4.54
364	3-nonenes	5.31	4.54
365	C9 internal alkenes	5.31	4.54
366	*trans*-4-nonene	5.23	4.54
367	C9 cyclic olefins or di-olefins	5.40	4.62
368	C9 alkenes	4.03	3.57
369	1-decene	2.28	2.17
370	C10 terminal alkenes	2.28	2.17
371	3,4-diethyl-2-hexene	3.95	3.38
372	*cis*-5-decene	4.89	3.66

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
373	*trans*-4-decene	4.50	3.87
374	C10 3-alkenes	4.50	3.87
375	C10 internal alkenes	4.50	3.87
376	C10 cyclic olefins or di-olefins	4.56	3.93
377	3-carene	3.21	3.24
378	α-pinene	4.29	4.51
379	β-pinene	3.28	3.52
380	*d*-limonene	3.99	4.55
381	sabinene	3.67	4.19
382	terpinolene*	6.16	6.36
383	camphene*	4.38	4.51
384	terpene (monoterpenes)	3.79	4.04
385	C10 alkenes	3.39	3.31
386	1-undecene	1.95	1.87
387	C11 terminal alkenes	1.95	1.87
388	*trans*-5-undecene	4.23	3.60
389	C11 3-alkenes	4.23	3.60
390	C11 internal alkenes	4.23	3.60
391	C11 cyclic olefins or di-olefins	4.29	3.65
392	C11 alkenes	3.09	2.73
393	C12 terminal alkenes	1.72	1.64
394	1-dodecene	1.72	1.64
395	C12 2-alkenes	3.75	3.14
396	C12 3-alkenes	3.75	3.14
397	C12 internal alkenes	3.75	3.14
398	*trans*-5-dodecene	3.74	3.14
399	C12 cyclic olefins or di-olefins	3.79	3.18
400	C12 alkenes	2.73	2.39
401	1-tridecene	1.55	1.48
402	C13 terminal alkenes	1.55	1.48
403	*trans*-5-tridecene	3.38	2.59
404	C13 3-alkenes	3.38	2.59
405	C13 internal alkenes	3.38	2.59
406	C13 cyclic olefins or di-olefins	3.42	2.62
407	C13 alkenes	2.46	2.03
408	1-tetradecene	1.41	1.34
409	C14 terminal alkenes	1.41	1.34
410	*trans*-5-tetradecene	3.08	2.35
411	C14 3-alkenes	3.08	2.35
412	C14 internal alkenes	3.08	2.35
413	C14 cyclic olefins or di-olefins	3.11	2.38
414	C14 alkenes	2.28	1.85
415	1-pentadecene	1.27	1.25

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
416	C15 terminal alkenes	1.27	1.25
417	*trans*-5-pentadecene	2.82	2.16
418	C15 3-alkenes	2.82	2.16
419	C15 internal alkenes	2.82	2.16
420	C15 cyclic olefins or di-olefins	2.85	2.19
421	C15 alkenes	2.06	1.71
	Aromatic Hydrocarbons		
422	benzene	0.81	0.72
423	toluene	3.97	4.00
424	ethyl benzene	2.79	3.04
425	*m*-xylene	10.61	9.75
426	*o*-xylene	7.49	7.64
427	*p*-xylene	4.25	5.84
428	C8 disubstituted benzenes	7.48	7.76
429	isomers of ethylbenzene	5.16	6.57
430	styrene	1.95	1.73
431	unspeciated C8 aromatics*	7.42	7.64
432	C9 monosubstituted benzenes	2.20	2.03
433	n-propyl benzene	2.20	2.03
434	isopropyl benzene; cumene	2.32	2.52
435	C9 disubstituted benzenes	6.61	5.81
436	*m*-ethyl toluene	9.37	7.39
437	*o*-ethyl toluene	6.61	5.59
438	*p*-ethyl toluene	3.75	4.44
439	C9 trisubstituted benzenes	9.90	10.87
440	1,2,3-trimethyl benzene	11.26	11.97
441	1,2,4-trimethyl benzene	7.18	8.87
442	1,3,5-trimethyl benzene	11.22	11.76
443	isomers of propyl benzene	6.12	6.23
444	indene	3.21	1.55
445	indane	3.17	3.32
446	allylbenzene*	1.45	1.53
447	α-methyl styrene	1.72	1.53
448	C9 styrenes	1.72	1.53
449	β-methyl styrene*	0.95	1.01
450	unspeciated C9 aromatics*	7.92	7.99
451	C10 monosubstituted benzenes	1.97	2.36
452	n-butyl benzene	1.97	2.36
453	sec-butyl benzene	1.97	2.36
454	tert-butyl benzene*	1.89	1.95
455	*o*-cymene; 1-methyl-2-(1-methylethyl) benzene*	5.34	5.49
456	1-methyl-2-n-propyl benzene*	5.34	5.49
457	*m*-cymene; 1-methyl-3-(1-methylethyl) benzene*	6.92	7.10

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
458	1-methyl-3-n-propyl benzene*	6.92	7.10
459	1-methyl-4-n-propyl benzene*	4.31	4.43
460	C10 disubstituted benzenes	5.92	5.68
461	*m*-C10 disubstituted benzenes*	6.92	7.10
462	*o*-C10 disubstituted benzenes*	5.34	5.49
463	*p*-C10 disubstituted benzenes*	4.31	4.43
464	*m*-diethyl benzene	8.39	7.10
465	*o*-diethyl benzene	5.92	5.49
466	1-methyl-4-isopropyl benzene; *p*-cymene*	4.32	4.44
467	*p*-diethyl benzene	3.36	4.43
468	1,2,3-C10 trisubstituted benzenes*	9.89	10.15
469	1,2,4-C10 trisubstituted benzenes*	7.35	7.55
470	1,3,5-C10 trisubstituted benzenes*	9.80	10.08
471	1,2,3,4-tetramethyl benzene*	9.01	9.26
472	1,2,4,5-tetramethyl benzene*	9.01	9.26
473	1,2-dimethyl-3-ethyl benzene*	9.89	10.15
474	1,2-dimethyl-4-ethyl benzene *	7.35	7.55
475	1,3-dimethyl-2-ethyl benzene *	9.89	10.15
476	1,3-dimethyl-4-ethyl benzene*	7.35	7.55
477	1,3-dimethyl-5-ethyl benzene*	9.80	10.08
478	1,4-dimethyl-2-ethyl benzene*	7.35	7.55
479	1,2,3,5-tetramethyl benzene	8.25	9.26
480	C10 trisubstituted benzenes	8.86	9.26
481	C10 tetrasubstituted benzenes	8.86	9.26
482	butylbenzenes	5.48	5.76
483	methyl indanes	2.83	2.97
484	tetralin; 1,2,3,4-tetrahydronaphthalene	2.83	2.97
485	naphthalene	3.26	3.34
486	C10 styrenes	1.53	1.37
487	unspeciated C10 aromatics	5.48	7.07
488	n-pentyl benzene*	2.04	2.12
489	C11 monosubstituted benzenes	1.78	2.12
490	*m*-C11 disubstituted benzenes*	5.98	6.15
491	*o*-C11 disubstituted benzenes*	4.60	4.73
492	*p*-C11 disubstituted benzenes*	3.77	3.88
493	1-butyl-2-methyl benzene*	4.60	4.73
494	1-ethyl-2-n-propyl benzene*	4.60	4.73
495	*o*-tert-butyl toluene; 1-(1,1-dimethylethyl)-2-methyl benzene*	4.60	4.73
496	1-methyl-3-n-butyl benzene*	5.98	6.15
497	*p*-isobutyl toluene; 1-methyl-4-(2-methylpropyl) benzene*	3.77	3.88
498	C11 disubstituted benzenes	5.35	4.92

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
499	1,2,3-C11 trisubstituted benzenes*	8.64	8.88
500	1,2,4-C11 trisubstituted benzenes*	6.44	6.62
501	1,3,5-C11 trisubstituted benzenes*	8.65	8.90
502	pentamethyl benzene*	7.91	8.13
503	1-methyl-3,5-diethyl benzene*	8.65	8.90
504	C11 trisubstituted benzenes	8.03	8.13
505	C11 tetrasubstituted benzenes	8.03	8.13
506	C11 pentasubstituted benzenes	8.03	8.13
507	pentyl benzenes	4.96	4.90
508	C11 tetralins or indanes	2.56	2.69
509	methyl naphthalenes	4.61	3.06
510	1-methyl naphthalene	4.61	3.06
511	2-methyl naphthalene	4.61	3.06
512	unspeciated C11 aromatics	4.96	6.95
513	C12 monosubstituted benzenes	1.63	1.90
514	*m*-C12 disubstituted benzenes*	5.35	5.49
515	*o*-C12 disubstituted benzenes*	4.11	4.23
516	*p*-C12 disubstituted benzenes*	3.38	3.49
517	1,3-di-n-propyl benzene*	4.11	4.23
518	1,4 di-isopropyl benzene*	3.38	3.49
519	3-isopropyl cumene; 1,3-di-isopropyl benzene*	5.35	5.49
520	C12 disubstituted benzenes	4.90	4.40
521	1,2,3-C12 trisubstituted benzenes*	7.74	7.95
522	1,2,4-C12 trisubstituted benzenes*	5.78	5.94
523	1,3,5-C12 trisubstituted benzenes*	7.79	8.02
524	1-(1,1-dimethylethyl)-3,5-dimethylbenzene*	7.79	8.02
525	C12 trisubstituted benzenes	7.33	7.30
526	C12 tetrasubstituted benzenes	7.33	7.30
527	C12 pentasubstituted benzenes	7.33	7.30
528	C12 hexasubstituted benzenes	7.33	7.30
529	hexyl benzenes	4.53	4.39
530	C12 tetralins or indanes	2.33	2.45
531	1-ethyl naphthalene*	2.69	2.78
532	C12 naphthalenes*	3.76	3.89
533	C12 monosubstituted naphthalene	4.20	2.78
534	C12 disubstituted naphthalenes	5.54	4.99
535	2,3-dimethyl naphthalene	5.54	4.99
536	dimethyl naphthalenes	5.54	4.99
537	unspeciated C12 aromatics	4.53	6.02
538	C13 monosubstituted benzenes	1.50	1.74
539	*m*-C13 disubstituted benzenes*	4.80	4.93
540	*o*-C13 disubstituted benzenes*	3.67	3.78
541	*p*-C13 disubstituted benzenes*	3.03	3.13

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
542	C13 disubstituted benzenes	4.50	3.95
543	1,2,3-C13 trisubstituted benzenes*	6.94	7.13
544	1,2,4-C13 trisubstituted benzenes*	5.20	5.35
545	1,3,5-C13 trisubstituted benzenes*	7.04	7.24
546	C13 trisubstituted benzenes	6.75	6.57
547	C13 tetralins or indanes*	2.17	2.25
548	C13 naphthalenes*	3.45	3.57
549	C13 monosubstituted naphthalene	3.86	2.55
550	C13 disubstituted naphthalenes	5.08	4.58
551	C13 trisubstituted naphthalenes	5.08	4.58
552	unspeciated C13 aromatics*	4.88	4.81
553	C14 monosubstituted benzenes*	1.53	1.60
554	*m*-C14 disubstituted benzenes*	4.32	4.45
555	*o*-C14 disubstituted benzenes*	3.30	3.40
556	*p*-C14 disubstituted benzenes*	2.75	2.84
557	C14 disubstituted benzenes*	3.46	3.56
558	1,2,3-C14 trisubstituted benzenes*	6.31	6.49
559	1,2,4-C14 trisubstituted benzenes*	4.75	4.89
560	1,3,5-C14 trisubstituted benzenes*	6.44	6.63
561	C14 trisubstituted benzenes*	5.84	6.00
562	C14 tetralins or indanes*	2.01	2.09
563	C14 naphthalenes*	3.19	3.30
564	unspeciated C14 aromatics*	3.93	3.80
565	C15 monosubstituted benzenes*	1.42	1.48
566	C15 disubstituted benzenes*	3.15	3.25
567	*m*-C15 disubstituted benzenes*	3.93	4.04
568	*o*-C15 disubstituted benzenes*	3.00	3.09
569	*p*-C15 disubstituted benzenes*	2.51	2.59
570	C15 trisubstituted benzenes*	5.35	5.50
571	1,2,3-C15 trisubstituted benzenes*	5.77	5.94
572	1,2,4-C15 trisubstituted benzenes*	4.35	4.47
573	1,3,5-C15 trisubstituted benzenes*	5.92	6.10
574	C15 tetralins or indanes*	1.87	1.94
575	C15 naphthalenes*	2.97	3.06
576	unspeciated C15 aromatics*	3.35	3.20
577	C16 monosubstituted benzenes*	1.32	1.38
578	*m*-C16 disubstituted benzenes*	3.60	3.71
579	*o*-C16 disubstituted benzenes*	2.74	2.83
580	*p*-C16 disubstituted benzenes*	2.30	2.38
581	C16 disubstituted benzenes*	2.88	2.97
582	1,2,3-C16 trisubstituted benzenes*	5.31	5.46
583	1,2,4-C16 trisubstituted benzenes*	4.01	4.13
584	1,3,5-C16 trisubstituted benzenes*	5.47	5.63

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
585	C16 trisubstituted benzenes*	4.93	5.07
586	C16 tetralins or indanes*	1.75	1.82
587	C16 naphthalenes*	2.77	2.86
588	unspeciated C16 aromatics*	2.96	2.79
589	C17 monosubstituted benzenes*	1.24	1.30
590	C17 disubstituted benzenes*	2.71	2.79
591	C17 trisubstituted benzenes*	4.63	4.77
592	C17 tetralins or indanes*	1.64	1.70
593	C17 naphthalenes*	2.60	2.68
594	C18 monosubstituted benzenes*	1.17	1.23
595	C18 disubstituted benzenes*	2.55	2.63
596	C18 trisubstituted benzenes*	4.37	4.49
597	C18 tetralins or indanes*	1.55	1.61
598	C18 naphthalenes*	2.45	2.53
599	C19 monosubstituted benzenes*	1.11	1.16
600	C19 disubstituted benzenes*	2.42	2.49
601	C19 trisubstituted benzenes*	4.13	4.25
602	C19 tetralins or indanes*	1.46	1.52
603	C19 naphthalenes*	2.31	2.39
604	C20 monosubstituted benzenes*	1.05	1.10
605	C20 disubstituted benzenes*	2.29	2.36
606	C20 trisubstituted benzenes*	3.92	4.04
607	C20 tetralins or indanes*	1.39	1.44
608	C20 naphthalenes*	2.19	2.26
609	C21 monosubstituted benzenes*	1.00	1.05
610	C21 disubstituted benzenes*	2.18	2.25
611	C21 trisubstituted benzenes*	3.73	3.84
612	C21 tetralins or indanes*	1.32	1.37
613	C21 naphthalenes*	2.08	2.15
614	C22 monosubstituted benzenes*	0.96	1.00
615	C22 disubstituted benzenes*	2.08	2.14
616	C22 trisubstituted benzenes*	3.56	3.66
617	C22 tetralins or indanes*	1.26	1.31
618	C22 naphthalenes*	1.98	2.05
	Oxygenated Organics		
619	carbon monoxide	0.06	0.056
620	formaldehyde	8.97	9.46
621	methanol	0.71	0.67
622	formic acid	0.08	0.07
623	ethylene oxide	0.04	0.04
624	acetaldehyde	6.84	6.54
625	ethanol	1.69	1.53
626	dimethyl ether	0.93	0.81

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
627	glyoxal	14.22	12.50
628	methyl formate	0.06	0.06
629	acetic acid	0.50	0.68
630	glycolaldehyde*	4.96	5.10
631	ethylene glycol	3.36	3.13
632	glycolic acid	2.67	2.38
633	peroxyacetic acid	12.62	0.54
634	acrolein	7.60	7.45
635	trimethylene oxide	5.22	4.56
636	propylene oxide	0.32	0.29
637	propionaldehyde	7.89	7.08
638	acetone	0.43	0.36
639	isopropyl alcohol	0.71	0.61
640	n-propyl alcohol	2.74	2.50
641	acrylic acid	11.66	11.38
642	methyl glyoxal	16.21	16.56
643	1,3-dioxolane	5.47	4.96
644	ethyl formate	0.52	0.48
645	methyl acetate	0.07	0.07
646	propionic acid	0.79	1.22
647	hydroxy acetone	3.08	3.23
648	propylene glycol	2.75	2.58
649	dimethoxy methane	1.04	0.94
650	2-methoxy ethanol	2.98	2.93
651	dimethyl carbonate; DMC	0.06	0.06
652	dihydroxy acetone	4.02	3.99
653	glycerol	3.27	3.15
654	furan	16.54	9.15
655	crotonaldehyde	10.07	9.39
656	methacrolein	6.23	6.01
657	cyclobutanone	0.68	0.62
658	methylvinyl ketone	8.73	9.65
659	tetrahydrofuran	4.95	4.31
660	1,2-epoxy butane	1.02	0.91
661	2-methyl propanal	5.87	5.25
662	butanal	6.74	5.97
663	C4 aldehydes	6.74	5.97
664	methyl ethyl ketone	1.49	1.48
665	isobutyl alcohol	2.24	2.51
666	n-butyl alcohol	3.34	2.88
667	sec-butyl alcohol	1.60	1.36
668	tert-butyl alcohol	0.45	0.41
669	diethyl ether	4.01	3.76

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
670	gamma-butyrolactone	1.15	0.96
671	methacrylic acid	18.78	18.50
672	methyl acrylate	12.24	11.48
673	vinyl acetate	3.26	3.20
674	hydroxyl-methacrolein	6.61	6.24
675	biacetyl; diacetyl; butanedione	20.73	20.09
676	1,4-dioxane	2.71	2.62
677	ethyl acetate	0.64	0.63
678	methyl propionate	0.71	0.66
679	n-propyl formate	0.93	0.78
680	isopropyl formate	0.42	0.37
681	isobutyric acid	1.22	1.20
682	butanoic acid	1.78	1.82
683	methoxy-acetone	2.14	2.03
684	1,3-butanediol*	3.21	3.36
685	1,2-butandiol	2.21	2.52
686	1,4-butanediol	3.22	2.72
687	2,3-butanediol*	4.23	4.38
688	1-methoxy-2-propanol	2.62	2.44
689	2-ethoxy-ethanol	3.78	3.71
690	2-methoxy-1-propanol	3.01	3.01
691	3-methoxy-1-propanol	4.01	3.84
692	propylene carbonate	0.25	0.28
693	methyl lactate	2.75	2.67
694	diethylene glycol	3.55	3.35
695	malic acid	7.51	6.94
696	2-methyl furan*	8.02	8.30
697	3-methyl furan*	6.64	6.90
698	cyclopentanone	1.43	1.15
699	C5 cyclic ketones	1.43	1.15
700	cyclopentanol	1.96	1.72
701	α-methyl tetrahydrofuran	4.62	3.97
702	tetrahydropyran	3.81	3.22
703	2-methyl-3-butene-2-ol	5.12	4.91
704	2,2-dimethylpropanal; pivaldehyde	5.40	4.89
705	3-methylbutanal; isovaleraldehyde	5.52	4.97
706	pentanal; valeraldehyde	5.76	5.08
707	C5 aldehydes	5.76	5.08
708	2-pentanone	3.07	2.81
709	3-pentanone	1.45	1.24
710	C5 ketones	3.07	2.81
711	methyl isopropyl ketone	1.64	1.65
712	2-pentanol	1.74	1.61

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
713	3-pentanol	1.73	1.63
714	pentyl alcohol	3.35	2.83
715	isoamyl alcohol; 3-methyl-1-butanol	2.73	3.16
716	2-methyl-1-butanol	2.60	2.40
717	ethyl isopropyl ether	3.86	3.74
718	methyl n-butyl ether	3.66	3.15
719	methyl tert-butyl ether; MTBE	0.78	0.73
720	ethyl acrylate	8.78	7.77
721	methyl methacrylate	15.84	15.61
722	glutaraldehyde	4.79	4.31
723	lumped C5+ unsaturated carbonyl species*	6.18	6.38
724	2,4-pentanedione	1.02	1.01
725	tetrahydro-2-furanmethanol; tetrahydrofurfuryl alcohol	3.54	3.31
726	ethyl propionate	0.79	0.77
727	isopropyl acetate	1.12	1.07
728	methyl butyrate	1.18	1.09
729	methyl isobutyrate	0.70	0.61
730	n-butyl formate	0.95	0.83
731	propyl acetate	0.87	0.78
732	3-methyl butanoic acid	4.26	4.23
733	2,2-dimethoxy-propane	0.52	0.48
734	1-ethoxy-2-propanol	3.25	3.09
735	2-propoxy-ethanol	3.52	3.30
736	3-ethoxy-1-propanol	4.24	4.09
737	3-methoxy-1-butanol	0.97	3.87
738	2-methoxyethyl acetate	1.18	1.15
739	ethyl lactate	2.71	2.48
740	methyl isopropyl carbonate	0.69	0.62
741	2-(2-methoxyethoxy) ethanol	2.90	2.66
742	pentaerythritol	2.42	2.17
743	phenol	1.82	2.76
744	2-ethyl furan*	6.85	7.09
745	2,5-dimethyl furan*	7.60	7.88
746	cyclohexanone	1.61	1.35
747	C6 cyclic ketones	1.61	1.35
748	mesityl oxide; 2-methyl-2-penten-4-one	17.37	6.51
749	cyclohexanol	2.25	1.95
750	hexanal	4.98	4.35
751	C6 aldehydes	4.98	4.35
752	4-methyl-2-pentanone	4.31	3.88
753	methyl n-butyl ketone	3.55	3.14
754	methyl tert-butyl ketone	0.78	0.65
755	C6 ketones	3.55	3.14

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
756	1-hexanol	2.74	2.69
757	2-hexanol	2.46	2.08
758	4-methyl-2-pentanol; methyl isobutyl carbinol	2.89	2.64
759	di-n-propyl ether	3.24	3.08
760	ethyl n-butyl ether	3.86	3.48
761	ethyl tert-butyl ether	2.11	2.01
762	methyl tert-amyl ether; TAME	2.14	1.69
763	diisopropyl ether	3.56	3.52
764	ethyl methacrylate*	12.15	12.47
765	ethyl butyrate	1.25	1.17
766	isobutyl acetate	0.67	0.62
767	methyl pivalate	0.39	0.35
768	n-butyl acetate	0.89	0.83
769	n-propyl propionate	0.93	0.84
770	sec-butyl acetate	1.43	1.32
771	tert-butyl acetate; tBAc	0.20	0.18
772	diacetone alcohol	0.68	0.60
773	methyl pentanoate; methyl valerate*	1.00	1.05
774	1,2-dihydroxyhexane	2.75	2.55
775	2-methyl-2,4-pentanediol	1.04	1.45
776	ethylene glycol diethyl ether; 1,2-diethoxyethane	2.84	2.95
777	acetal (1,1-diethoxyethane)	3.68	3.58
778	1-propoxy-2-propanol; propylene glycol n-propyl ether	2.86	2.68
779	2-butoxy-ethanol	2.90	2.90
780	3 methoxy-3-methyl-butanol	1.74	2.88
781	n-propoxy-propanol	3.84	3.77
782	hydroxypropyl acrylate	5.56	4.90
783	1-methoxy-2-propyl acetate	1.71	1.70
784	2-ethoxyethyl acetate	1.90	1.84
785	2-methoxy-1-propyl acetate	1.12	1.12
786	methoxypropanol acetate	1.97	1.86
787	2-(2-ethoxyethoxy) ethanol	3.19	3.26
788	dipropylene glycol isomer (1-[2-hydroxypropyl]-2-propanol)	2.48	2.31
789	dimethyl succinate	0.23	0.23
790	ethylene glycol diacetate	0.72	0.66
791	adipic acid; hexanedioic acid	3.37	3.08
792	triethylene glycol	3.41	3.25
793	benzaldehyde	0.00	0.00
794	C7 alkyl phenols	2.34	2.40
795	*m*-cresol	2.34	2.40
796	*p*-cresol	2.34	2.40

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
797	*o*-cresol	2.34	2.40
798	benzyl alcohol*	4.98	5.11
799	methoxybenzene; anisole*	6.49	6.66
800	C7 cyclic ketones	1.41	1.18
801	heptanal	4.23	3.69
802	C7 aldehydes	4.23	3.69
803	2-methyl-hexanal	3.97	3.54
804	2-heptanone	2.80	2.36
805	2-methyl-3-hexanone	1.79	1.53
806	di-isopropyl ketone	1.63	1.31
807	C7 ketones	2.80	2.36
808	5-methyl-2-hexanone	2.10	2.41
809	3-methyl-2-hexanone	2.81	2.55
810	1-heptanol	2.21	1.84
811	dimethylpentanol; 2,3-dimethyl-1-pentanol	2.51	2.23
812	4,4-diethyl-3-oxahexane; *tert*-amyl ethyl ether; TAEE	2.03	1.95
813	n-butyl acrylate	5.52	5.02
814	isobutyl acrylate	5.05	4.72
815	butyl propionate	0.89	0.84
816	amyl acetate; n-pentyl acetate	0.96	0.84
817	n-propyl butyrate	1.17	1.05
818	isoamyl acetate; 3-methyl-butyl acetate	1.18	1.09
819	2-methyl-1-butyl acetate	1.17	1.08
820	methyl hexanoate*	0.96	1.02
821	1-tert-butoxy-2-propanol	1.71	1.61
822	2-tert-butoxy-1-propanol	1.81	1.81
823	n-butoxy-2-propanol; propylene glycol n-butyl ether	2.70	2.72
824	ethyl 3-ethoxy propionate	3.61	3.58
825	diisopropyl carbonate	1.04	0.98
826	2-(2-propoxyethoxy) ethanol	3.00	2.85
827	dipropylene glycol methyl ether; 1-methoxy-2-(2-hydroxypropoxy)-propane	2.21	1.98
828	dipropylene glycol methyl ether; 2-(2-methoxypropoxy)-1-propanol	2.70	2.58
829	1,2-propylene glycol diacetate	0.94	0.61
830	dimethyl glutarate	0.51	0.42
831	2-[2-(2-methoxyethoxy) ethoxy] ethanol	2.62	2.58
832	tolualdehyde	0.00	0.00
833	4-vinyl phenol*	1.43	1.50
834	2,4-dimethyl phenol*	2.07	2.12
835	2,5-dimethyl phenol*	2.07	2.12
836	3,4-dimethyl phenol*	2.07	2.12
837	2,3-dimethyl phenol*	2.07	2.12

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
838	2,6-dimethyl phenol*	2.07	2.12
839	C8 alkyl phenols	2.07	2.12
840	β-phenethyl alcohol; 2-phenyl ethyl alcohol*	4.41	4.53
841	C8 cyclic ketones	1.25	1.05
842	2-butyl tetrahydrofuran	2.53	2.13
843	octanal	3.65	3.16
844	C8 aldehydes	3.65	3.16
845	2-octanone	1.66	1.40
846	C8 ketones	1.66	1.40
847	1-octanol	2.01	1.43
848	2-ethyl-1-hexanol	2.20	2.00
849	2-octanol	2.16	1.97
850	3-octanol	2.57	2.28
851	4-octanol	3.07	2.23
852	5-methyl-1-heptanol	1.95	1.79
853	di-isobutyl ether	1.29	1.20
854	di-n-butyl ether	3.17	2.84
855	2-phenoxyethanol; ethylene glycol phenyl ether	3.61	4.49
856	butyl methacrylate	9.09	8.70
857	isobutyl methacrylate	8.99	8.62
858	hexyl acetates*	0.74	0.80
859	2,3-dimethylbutyl acetate	0.84	0.75
860	2-methylpentyl acetate	1.11	0.98
861	3-methylpentyl acetate	1.31	1.07
862	4-methylpentyl acetate	0.92	0.82
863	isobutyl isobutyrate	0.61	0.60
864	n-butyl butyrate	1.12	1.08
865	n-hexyl acetate	0.87	0.69
866	methyl amyl acetate; 4-methyl-2-pentanol acetate	1.46	1.35
867	n-pentyl propionate	0.79	0.71
868	2-ethyl hexanoic acid	3.49	3.32
869	methyl heptanoate*	0.76	0.82
870	2-ethyl-1,3-hexanediol	2.62	2.05
871	2-n-hexyloxyethanol	2.45	2.09
872	2,2,4-trimethyl-1,3-pentanediol	1.74	1.54
873	phthalic anhydride*	2.50	2.58
874	methylparaben; 4-hydroxybenzoic acid, methyl ester*	1.66	1.71
875	2-butoxyethyl acetate	1.67	1.62
876	2-methoxy-1-(2-methoxy-1-methylethoxy)-propane; dipropylene glycol dimethyl ether	2.09	2.02
877	2-(2-butoxyethoxy)-ethanol	2.87	2.39
878	dipropylene glycol ethyl ether	2.75	2.72
879	dimethyl adipate	1.95	1.80

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
880	2-(2-ethoxyethoxy) ethyl acetate	1.50	1.48
881	2-[2-(2-ethoxyethoxy) ethoxy] ethanol	2.66	2.46
882	tetraethylene glycol	2.84	2.51
883	cinnamic aldehyde*	4.68	4.84
884	cinnamic alcohol*	0.84	0.89
885	2,3,5-trimethyl phenol*	1.86	1.90
886	2,3,6-trimethyl phenol*	1.86	1.90
887	C9 alkyl phenols	1.86	1.90
888	isophorone; 3,5,5-trimethyl-2-cyclohexenone	10.58	4.63
889	C9 cyclic ketones	1.13	0.94
890	2-propyl cyclohexanone	1.71	1.54
891	4-propyl cyclohexanone	2.08	1.85
892	1-nonene-4-one	3.39	3.14
893	trimethyl cyclohexanol	2.17	1.86
894	2-nonanone	1.30	1.08
895	di-isobutyl ketone; 2,6-dimethyl-4-heptanone	2.94	2.68
896	C9 ketones	1.30	1.08
897	dimethyl heptanol; 2,6-dimethyl-2-heptanol	1.07	0.94
898	2,6-dimethyl-4-heptanol	2.37	2.09
899	1-phenoxy-2-propanol	1.73	1.60
900	2,4-dimethylpentyl acetate	0.98	0.92
901	2-methylhexyl acetate	0.89	0.69
902	3-ethylpentyl acetate	1.24	1.10
903	3-methylhexyl acetate	1.01	0.89
904	4-methylhexyl acetate	0.91	0.82
905	5-methylhexyl acetate	0.79	0.59
906	isoamyl isobutyrate	0.89	0.82
907	n-heptyl acetate	0.73	0.65
908	methyl octanoate*	0.64	0.69
909	1-(butoxyethoxy)-2-propanol	2.08	1.93
910	dipropylene glycol n-propyl ether isomer #1	2.13	2.00
911	dipropylene glycol methyl ether acetate isomer #1	1.41	1.38
912	dipropylene glycol methyl ether acetate isomer #2	1.58	1.52
913	dipropylene glycol methyl ether acetate isomers	1.49	1.45
914	2-[2-(2-propoxyethoxy) ethoxy] ethanol	2.46	2.17
915	tripropylene glycol*	2.07	2.18
916	2,5,8,11-tetraoxatridecan-13-ol	2.15	1.97
917	glyceryl triacetate	0.57	0.55
918	anethol; *p*-propenyl-anisole*	0.76	0.80
919	C10 alkyl phenols	1.68	1.73
920	camphor*	0.45	0.49
921	α-terpineol	5.16	4.63
922	citronellol; 3,7-dimethyl-6-octen-1-ol*	5.63	5.79

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
923	hydroxycitronella*; hydroxycitronellal	2.50	2.61
924	C10 cyclic ketones	1.02	0.86
925	menthol	1.70	1.43
926	linalool*	5.28	5.43
927	2-decanone	1.06	0.90
928	C10 ketones	1.06	0.90
929	8-methyl-1-nonanol; isodecyl alcohol	1.23	1.06
930	1-decanol	1.22	1.06
931	3,7-dimethyl-1-octanol	1.42	1.20
932	di-n-pentyl ether	2.64	2.15
933	1,2-diacetyl benzene*	2.17	2.25
934	2,4-dimethylhexyl acetate	0.93	0.76
935	2-ethyl-hexyl acetate	0.79	0.66
936	3,4-dimethyl-hexyl acetate	1.16	0.87
937	3,5-dimethyl-hexyl acetate	1.09	0.99
938	3-ethyl-hexyl acetate	1.03	0.91
939	3-methyl-heptyl acetate	0.76	0.67
940	4,5-dimethyl-hexyl acetate	0.86	0.68
941	4-methyl-heptyl acetate	0.72	0.66
942	5-methyl-heptyl acetate	0.73	0.61
943	n-octyl acetate	0.64	0.57
944	geraniol*	4.97	5.12
945	methyl nonanoate*	0.54	0.59
946	2-(2-ethylhexyloxy) ethanol	1.71	1.55
947	propylparaben*; 4-hydroxybenzoic acid, propyl ester	1.40	1.44
948	2-(2-hexyloxyethoxy) ethanol	2.03	1.84
949	glycol ether DPnB; dipropylene glycol n-butyl ether; 1-(2-butoxy-1-methylethoxy)-2-propanol)	1.96	1.83
950	2-(2-butoxyethoxy) ethyl acetate	1.38	1.38
951	2-[2-(2-butoxyethoxy) ethoxy] ethanol	2.24	1.96
952	tripropylene glycol monomethyl ether	1.90	1.92
953	C11 alkyl phenols	1.54	1.58
954	2-ethyl-hexyl acrylate	2.42	2.52
955	2,3,5-trimethyl-hexyl acetate	0.86	0.85
956	2,3-dimethyl-heptyl acetate	0.84	0.71
957	2,4-dimethyl-heptyl acetate	0.88	0.68
958	2,5-dimethyl-heptyl acetate	0.86	0.78
959	2-methyloctyl acetate	0.63	0.52
960	3,5-dimethyl-heptyl acetate	1.01	0.81
961	3,6-dimethyl-heptyl acetate	0.87	0.78
962	3-ethyl-heptyl acetate	0.71	0.63
963	4,5-dimethyl-heptyl acetate	0.96	0.69
964	4,6-dimethyl-heptyl acetate	0.83	0.78

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
965	4-methyloctyl acetate	0.68	0.61
966	5-methyloctyl acetate	0.67	0.56
967	n-nonyl acetate	0.58	0.52
968	methyl decanoate*	0.48	0.53
969	C12 alkyl phenols	1.42	1.46
970	2,6,8-trimethyl-4-nonanone; isobutyl heptyl ketone	1.86	1.66
971	trimethylnonanol, threo+erythro; 2,6,8-trimethyl-4-nonanol	1.55	1.33
972	3,6-dimethyl-octyl acetate	0.88	0.79
973	3-isopropyl-heptyl acetate	0.71	0.54
974	4,6-dimethyl-octyl acetate	0.85	0.76
975	methyl undecanoate*	0.45	0.50
976	1-hydroxy-2,2,4-trimethylpentyl-3-isobutyrate	0.92	0.89
977	3-hydroxy-2,2,4-trimethylpentyl-1-isobutyrate	0.88	0.77
978	2,2,4-trimethyl-1,3-pentanediol monoisobutyrate and isomers (texanol®)	0.89	0.81
979	substituted C7 ester (C12)	0.92	0.81
980	substituted C9 ester (C12)	0.89	0.81
981	diethylene glycol mono-(2-ethylhexyl) ether*	1.46	1.56
982	diethyl phthalate*	1.56	1.62
983	dimethyl sebacate	0.48	0.43
984	diisopropyl adipate	1.42	1.28
985	3,6,9,12-tetraoxa-hexadecan-1-ol	1.90	1.72
986	triethyl citrate*	0.66	0.70
987	3,5,7-trimethyl-octyl acetate	0.83	0.66
988	3-ethyl-6-methyl-octyl acetate	0.80	0.63
989	4,7-dimethyl-nonyl acetate	0.64	0.50
990	methyl dodecanoate; methyl laurate	0.53	0.47
991	tripropylene glycol n-butyl ether*	1.55	1.64
992	amyl cinnamal*	3.06	3.16
993	isobornyl methacrylate	8.64	5.51
994	2,3,5,7-tetramethyl-octyl acetate	0.74	0.62
995	3,5,7-trimethyl-nonyl acetate	0.76	0.62
996	3,6,8-trimethyl-nonyl acetate	0.72	0.59
997	methyl tridecanoate*	0.40	0.45
998	hexyl cinnamal*	2.86	2.96
999	2,6-di-tert-butyl-*p*-cresol *	1.15	1.18
1000	2-ethyl-hexyl benzoate*	0.93	0.98
1001	2,4,6,8-tetramethyl-nonyl acetate	0.63	0.51
1002	3-ethyl-6,7-dimethyl-nonyl acetate	0.76	0.61
1003	4,7,9-trimethyl-decyl acetate	0.55	0.42
1004	methyl myristate; methyl tetradecanoate	0.47	0.43
1005	methyl *cis*-9-pentadecenoate*	1.63	1.80

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
1006	methyl *cis*-9-hexadecenoate; methyl palmitoleate*	1.63	1.70
1007	methyl pentadecanoate*	0.42	0.47
1008	2,3,5,6,8-pentamethyl-nonyl acetate	0.74	0.65
1009	3,5,7,9-tetramethyl-decyl acetate	0.58	0.48
1010	5-ethyl-3,6,8-trimethyl-nonyl acetate	0.77	0.77
1011	dibutyl phthalate*	1.20	1.25
1012	2,2,4-trimethyl-1,3-pentanediol diisobutyrate*	0.34	0.38
1013	methyl hexadecanoate; methyl palmitate*	0.40	0.44
1014	methyl *cis*-9-heptadecenoate*	1.56	1.62
1015	methyl heptadecanoate; methyl margarate*	0.38	0.42
1016	methyl linolenate; methyl *cis*,*cis*,*cis*-9,12,15-octadecatrienoate*	1.77	2.32
1017	methyl linoleate; methyl *cis*,*cis*-9,12-octadecadienoate*	1.48	1.84
1018	methyl *cis*-9-octadecenoate; methyl oleate*	1.48	1.54
1019	methyl octadecanoate; methyl stearate*	0.36	0.40
	Other Organic Compounds		
1020	methylamine*	7.29	7.70
1021	methyl chloride	0.03	0.04
1022	methyl nitrite*	10.50	10.84
1023	nitromethane	7.86	0.07
1024	carbon disulfide*	0.23	0.25
1025	dichloromethane	0.07	0.04
1026	methyl bromide	0.02	0.02
1027	chloroform	0.03	0.02
1028	methyl iodide*	0.00	0.00
1029	carbon tetrachloride	0.00	0.00
1030	chloropicrin; trichloro-nitro-methane*	1.80	1.85
1031	methylene bromide	0.00	0.00
1032	acetylene	1.25	0.95
1033	dimethyl amine	9.37	3.17
1034	ethyl amine	7.80	5.78
1035	ethanolamine	5.97	6.81
1036	vinyl chloride	2.92	2.83
1037	ethyl chloride	0.25	0.29
1038	1,1-difluoroethane; HFC-152a	0.00	0.02
1039	methyl isothiocyanate*; MITC	0.31	0.32
1040	nitroethane	12.79	0.06
1041	dimethyl sulfoxide; DMSO	6.90	6.68
1042	chloroacetaldehyde*	12.00	12.30
1043	1,1-dichloroethene*	1.69	1.79
1044	*trans*-1,2-dichloroethene	0.81	1.70
1045	*cis*-1,2-dichloroethene*	1.65	1.70

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
1046	1,1-dichloroethane	0.10	0.07
1047	1,2-dichloroethane	0.10	0.21
1048	1,1,1,2-tetrafluoroethane; HFC-134a	0.00	0.00
1049	ethyl bromide	0.11	0.13
1050	trichloroethylene; TCE	0.60	0.64
1051	1,1,1-trichloroethane	0.00	0.01
1052	1,1,2-trichloroethane	0.06	0.09
1053	perchloroethylene; perc	0.04	0.03
1054	1,2-dibromoethane	0.05	0.10
1055	methyl acetylene	6.45	6.72
1056	acrylonitrile*	2.16	2.24
1057	trimethyl amine	7.06	6.32
1058	isopropyl amine*	6.93	7.23
1059	n-methyl acetamide**	19.70	20.19
1060	1-amino-2-propanol	13.42	5.42
1061	3-chloropropene*	11.98	12.22
1062	1-nitropropane	16.16	0.22
1063	2-nitropropane	16.16	0.11
1064	chloroacetone*	9.22	9.41
1065	*trans*-1,3-dichloropropene*	4.92	5.03
1066	*cis*-1,3-dichloropropene*	3.61	3.70
1067	1,3-dichloropropene mixture*	4.19	4.29
1068	1,2-dichloropropane*	0.28	0.29
1069	*trans*-1,3,3,3-tetrafluoropropene*; *trans*-HFO-1234ze	0.09	0.10
1070	2,3,3,3-tetrafluoropropene*; HFO-1234yf	0.27	0.28
1071	n-propyl bromide	0.35	0.42
1072	1,1,1,3,3-pentafluoropropane*; HFC-245fa	0.00	0.00
1073	3,3-dichloro-1,1,1,2,2-pentafluoropropane; HCFC-225ca*	0.00	0.00
1074	1,3-dichloro-1,1,2,2,3-pentafluoropropane; HCFC-225cb*	0.00	0.00
1075	1,3-butadiyne*	5.53	5.76
1076	1-buten-3-yne; vinyl acetylene*	10.15	10.48
1077	2-butyne	16.33	16.32
1078	ethyl acetylene	6.20	6.11
1079	tert-butyl amine*	0.00	0.00
1080	morpholine	15.43	1.98
1081	ethyl methyl ketone oxime; methyl ethyl ketoxime*	22.04	1.58
1082	dimethylaminoethanol; DMAE	4.76	5.62
1083	2-amino-1-butanol*	4.78	4.98
1084	2-amino-2-methyl-1-propanol; AMP	15.08	0.25
1085	1-chlorobutane*	1.04	1.10
1086	diethylenetriamine**	13.03	15.53

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
1087	diethanol-amine	4.05	2.47
1088	2-(chloro-methyl)-3-chloro-propene	1.13	7.00
1089	n-butyl bromide	0.60	0.82
1090	1,1,1,3,3-pentafluorobutane; HFC-365mfc*	0.00	0.00
1091	n-methyl-2-pyrrolidone	2.56	2.41
1092	2-amino-2-ethyl-1,3-propanediol*	0.00	0.78
1093	hydroxyethylethylene urea**	14.75	11.22
1094	methoxy-perfluoro-n-butane*; methyl-nonafluoro-butyl ether; HFE-7100 isomer	0.00	0.00
1095	methoxy-perfluoro-isobutene*; methyl-nonafluoro-isobutyl ether; HFE-7100 isomer	0.00	0.00
1096	1,1,1,2,2,3,4,5,5,5-decafluoropentane; HFC-43-10mee*	0.00	0.00
1097	triethyl amine	16.60	3.84
1098	triethylene diamine*	3.31	3.46
1099	monochlorobenzene	0.36	0.32
1100	nitrobenzene	0.07	0.06
1101	*p*-dichlorobenzene	0.20	0.18
1102	*o*-dichlorobenzene*	0.17	0.18
1103	triethanolamine*	2.76	4.21
1104	hexamethyl-disiloxane*	0.00	0.00
1105	hydroxymethyl-disiloxane*	0.00	0.00
1106	hexafluoro-benzene*	0.05	0.05
1107	ethoxy-perfluoro-n-butane*; ethyl nonafluoro-butyl ether; HFE-7200 isomer	0.01	0.01
1108	ethoxy-perfluoro-isobutane*; ethyl nonafluoro-isobutyl ether; HFE-7200 isomer	0.01	0.01
1109	perfluoro-n-hexane*	0.00	0.00
1110	2-chlorotoluene*	2.82	2.92
1111	*m*-nitrotoluene*	0.48	0.50
1112	benzotrifluoride	0.26	0.29
1113	*p*-trifluoromethyl-chloro-benzene	0.11	0.13
1114	*p*-toluene isocyanate	0.93	1.06
1115	3-(chloromethyl)-heptane*	0.88	0.95
1116	cyclosiloxane D4; octamethylcyclotetrasiloxane*	0.00	0.00
1117	cumene hydroperoxide; 1-methyl-1-phenylethylhydroperoxide**	12.61	9.08
1118	2,4-toluene diisocyanate*	0.00	0.00
1119	2,6-toluene diisocyanate*	0.00	0.00
1120	toluene diisocyanate (mixed isomers)*	0.00	0.00
1121	molinate; S-ethyl hexahydro-1*H*-azepine-1-	1.43	1.51

	Organic Compound	*MIR Value (July 18, 2001)*	*New MIR Value (October 2, 2010)*
	carbothioate*		
1122	EPTC; S-ethyl dipropyl-thiocarbamate*	1.58	1.67
1123	triisopropanolamine*	2.60	2.70
1124	dexpanthenol; pantothenylol**	9.35	6.15
1125	pebulate; S-propyl butylethylthiocarbamate*	1.58	1.67
1126	cyclosiloxane D5; decamethylcyclopentasiloxane*	0.00	0.00
1127	thiobencarb; S-[4-chlorobenzyl] N,N-diethylthiolcarbamate*	0.65	0.68
1128	methylene diphenylene diisocyanate	0.79	0.89
1129	lauryl pyrrolidone*	0.89	0.94
	Complex Mixtures		
1130	base ROG mixture	3.71	3.60
1131	kerosene*	1.46	1.62
1132	oxo-tridecyl acetate	0.67	0.55
1133	oxo-dodecyl acetate	0.72	0.59
1134	oxo-decyl acetate	0.83	0.70
1135	oxo-nonyl acetate	0.85	0.72
1136	oxo-octyl acetate	0.96	0.81
1137	oxo-heptyl acetate	0.97	0.83
1138	oxo-hexyl acetate	1.03	0.86
1139	turpentine*	4.12	4.28
1140	soy methyl esters; alkyl C16-C18 methyl esters*	1.52	1.58

* This reactive organic compound was added to the Table of MIR Values on October 2, 2010, and may be used in aerosol coating products after this date, as specified in section 94522(h)(2)(B), title 17, California Code of Regulations

** ULMIR (as defined in section 94521(a)(71), title 17, California Code of Regulations.)

NOTE: Authority cited: Sections 39600, 39601, and 41712, Health and Safety Code. Reference: Sections 39002, 39600, 40000 and 41712, Health and Safety Code.

§ 94701. MIR Values for Hydrocarbon Solvents.

(a) Aliphatic Hydrocarbon Solvents

Bin	*Average Boiling Point* (degrees F)*	*Criteria*	*MIR Value (July 18, 2001)*	*MIR Value (October 2, 2010)*
1	80-205	Alkanes (< 2% Aromatics)	2.08	1.42
2	80-205	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	1.59	1.31
3	80-205	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	2.52	1.63
4	80-205	Alkanes (2 to < 8% Aromatics)	2.24	1.47
5	80-205	Alkanes (8 to 22% Aromatics)	2.56	1.56
6	>205-340	Alkanes (< 2% Aromatics)	1.41	1.17
7	>205-340	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	1.17	1.03
8	>205-340	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	1.65	1.44
9	>205-340	Alkanes (2 to < 8% Aromatics)	1.62	1.44
10	>205-340	Alkanes (8 to 22% Aromatics)	2.03	1.98
11	>340-460	Alkanes (< 2% Aromatics)	0.91	0.70
12	>340-460	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	0.81	0.62
13	>340-460	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	1.01	0.86
14	>340-460	Alkanes (2 to < 8% Aromatics)	1.21	0.99
15	>340-460	Alkanes (8 to 22% Aromatics)	1.82	1.57
16	>460-580	Alkanes (< 2% Aromatics)	0.57	0.52
17	>460-580	N- & Iso-Alkanes (≥ 90% and < 2% Aromatics)	0.51	0.48
18	>460-580	Cyclo-Alkanes (≥ 90% and < 2% Aromatics)	0.63	0.60
19	>460-580	Alkanes (2 to < 8% Aromatics)	0.88	0.66
20	>460-580	Alkanes (8 to 22% Aromatics)	1.49	0.95

* Average Boiling Point = (Initial Boiling Point + Dry Point) / 2

(b) Aromatic Hydrocarbon Solvents

Bin	*Boiling Range (degrees F)*	*Criteria*	*MIR Value (July 18, 2001)*	*MIR Value (October 2, 2010)*
21	280-290	Aromatic Content (≥ 98%)	7.37	7.64
22	320-350	Aromatic Content (≥ 98%)	7.51	7.60
23	355-420	Aromatic Content (≥ 98%)	8.07	6.85
24	450-535	Aromatic Content (≥ 98%)	5.00	3.82